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ABSTRACT

This report describes the extent and causes of widespread hunger in Asia, the Middle East, Africa, Latin America and the Caribbean using case studies of Bangladesh, Brazil, and Mozambique and profiles of 42 other countries. Current evidence points to more than half a billion people who chronically lack enough food for a normal life and an equal number who live in circumstances that place them in constant risk of hunger. The plight of between 18 million and 20 million hungry people in the United States is discussed in a separate chapter. The report offers a model for effective action to reduce U.S. poverty in a case study of midwest farmworkers. On the global scene, the report draws connections between hunger and militarization, the oppression of women, environmental destruction, industrial country trade and debt policies, and misguided foreign aid. The report sees signs of hope in examples of poor people's initiatives, global trends toward democratization and recent evidence of increasing willingness on the part of governments to consider national and international measures to reduce poverty. A glossary, bibliography and tables of data from foreign countries and the United States also are included. (Author/DB)

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A Report on the State of World Hunger

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Hunger 1990

A Report on the State of World Hunger

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Abbreviations

AFDC	Aid to Families with Dependent Children
FAO	Food and Agriculture Organization of the United Nations
ha.	hectare (2.5 acres/1 ha)
IFAD	International Fund for Agricultural Development
ILO	International Labor Office
IMF	International Monetary Fund
km.	kilometer (0.6 mile/1 km)
NGO	Non-governmental organizations
U.N.	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WIC	Special Supplemental Food Program for Women, Infants, and Children

INTRODUCTION

Hunger in 1990

More than half a billion of the world's people are chronically hungry. This is a conservative estimate. Many others are vulnerable to periods of hunger during the year. Good intentions have not sufficiently translated into effective action and, consequently, hunger has been increasing.

1990: A Turning Point?

The cascade of events in Eastern Europe and elsewhere during the latter part of 1989 not only ushered in a more promising decade for freedom, but a moment of opportunity to reverse the arms buildup, North and South, and to pursue peaceful development. The end of the Cold War has also created anxiety that economic needs in Eastern Europe, coupled with a perceived decline in the "strategic value" of Third World nations, might reduce interest in and assistance to those nations. That already appears to be happening with regard to Africa.

If, however, arms and conflict reductions were accompanied by a renewed international commitment to worldwide human development, 1990 could mark an historic turning point in humankind's struggle against hunger. Worldwide military spending, now estimated at $1 trillion, is a major cause of hunger and poverty.

"The rapid rise of military spending in the Third World during the last three decades is one of the most alarming, and least talked about, issues. It continued even in the 1980s despite faltering economic growth in many developing countries and despite major cutbacks for education and health."—*Human Development Report 1990*

Another hopeful sign during the year was a spate of reports and meetings about poverty that emerged from intergovernmental agencies. The U.N. Development Program launched a new annual publication with its *Human Development Report 1990*. It emphasizes that human development is much more than GNP growth and highlights the importance of health, education, political rights and equitable access to resources.

The World Bank's *World Development Report* this year focused on poverty. This report outlined policies which have proved successful in reducing hunger in some developing countries. It stated that industrial countries can help overcome poverty by reducing barriers to developing-country imports and by allocating more of their aid to developing-country governments which are making serious efforts to reduce poverty. As a result of the report, when finance ministers and central bankers throughout the world gathered in September 1990 for the Annual Meetings of the World Bank and International Monetary Fund, reducing poverty was a more prominent theme than it had been for years.

UNICEF's *State of the World's Children 1990* set the stage for the World Summit of Children, which also took place in September. Heads of state from dozens of countries throughout the world assembled in New York for this unprecedented gathering, which ended with a ringing pledge to give the world's most vulnerable children "first call" on global resources.

This series of reports and meetings reflect an increasing willingness on the part of governments to consider national and international measures to reduce poverty. These changing attitudes are grounded in the new possibilities which are opened by the end of the Cold War and in shifting concerns among the public. There has been a worldwide groundswell of public concern about the global environment. Organized public concern about world hunger is relatively weak, but lasting progress against environmental destruction in developing countries is unlikely without reducing poverty and rapid population growth. The international surge toward democracy is also going strong. The collapse of many authoritarian regimes dramatically demonstrates the power of concerned citizens acting together.

In combination, these developments point to the opportunity that is ours as world citizens to make 1990 a turning point against hunger. We can either waste it or seize it.

Arms and Hunger

Hunger 1990 provides country studies of hunger in 44 developing nations, which include the bulk of the world's hungry people, and also in the United States. These country studies document the extent of hunger and some of the factors that directly affect hungry people. Subsequent annual reports will monitor changes in hunger conditions and examine the situation of hungry people from various thematic perspectives.

One theme that emerges from many of the country studies is the link between arms and hunger. Armed conflict and militarization deserve more attention than they are usually given in official reports on international development. Special attention is warranted on several counts.

Armed conflicts, which during the past decade killed almost three times as many civilians as soldiers, also leave in their wake dislocated people, disrupted economies, poverty and famine. When people on the edge of subsistence suffer from war, the result is often hunger or even starvation. War-related famine affects at least 20 million people in southern and northeastern Africa.

Even when weapons are not used, the costs of weapons kill people indirectly by depriving them of food and other basic needs. Although social and environmental problems pose serious threats to the security of many nations and the world, efforts to address these problems are dwarfed by the size and sophistication of the military.

Military spending competes with domestic human needs even in countries as well-off as the United States. While the absolute dollar amount spent on arms is higher in industrialized countries than in developing countries, the trade-off with human needs is more devastating in poorer countries. The U.N. Development Program reports that in 1985 military spending represented almost 160 mil-

War and Hunger

In 1990 the threat of military confrontation between superpowers is less than at any point since the advent of the Cold War. But while those tensions decline, numerous wars are occurring within the Third World, and many result in serious hunger problems. Some wars are waged with weapons gained from the superpowers, which sponsor governments or anti-government forces to achieve strategic ends. The U.S. support for the contra forces that battled the Nicaraguan government in the 1980s and the Soviet weapons used by the Ethiopian government in several wars are cases in point. Also, international sales of weapons to the Third World were worth $29 billion in 1989, a decline from the early 1980s, but still a stupendous cost in a hungry world.

Across the Third World, warfare is directly related to hunger. Wars are often aimed at civilians and their means of livelihood—crops, livestock, trade, small businesses, as well as local services such as health centers. Food production, markets and relief efforts are often disrupted. In southern and northeastern Africa, warfare has caused widespread famines. As a result, starvation is likely to occur in 1990. In Asia, current tensions between Pakistan and India, civil war in Cambodia, and continued strife in Sri Lanka bode ill for hungry people.

In the following countries, active wars are directly linked to hunger conditions. Not included are the numerous cases of violence associated frequently with government repression and localized resistance. (See also the footnote on the 1990 Persian Gulf crisis on page 8.)

Asia

Afghanistan: extensive hunger and millions of refugees dependent on food assistance
Cambodia: civil war, with potential for return of the government responsible for one million hunger-related deaths in the 1970s
East Timor: extensive hunger
India and Pakistan: potential for conventional or nuclear war
Lebanon: extensive disruption of food distribution
Philippines: extensive disruption of food production
Sri Lanka: disruption of food production
Vietnam: extensive environmental degradation resulting from U.S. intervention in the civil war between 1965 and 1973, and low level of economic production due partly to continuing diplomatic isolation

Africa

Angola: approximately 1.5 million people face famine
Ethiopia and Eritrea: famine affecting up to 5 million people
Liberia: food production disrupted
Mozambique: food production disrupted; about 5 million people are confronted by famine
Somalia: food production disrupted; up to one million refugees
Sudan: famine affecting 4.5 million people and poor living conditions for more than one million refugees
Uganda: food production and distribution interrupted

Latin America

Colombia: food production disrupted
El Salvador: extensive hunger and food production disrupted
Peru: food production disrupted ■

lion people-years of income for developing countries, "three times the equivalent military burden of industrial countries." One M-1 tank costs $2.5 million, roughly equivalent to the total annual earnings of a community of 25,000 people in Ethiopia.

The arms race has accelerated more rapidly in the struggling countries of the South than in the industrialized countries of the North. Between 1960 and 1987, the Third World's share of world military spending increased from 7 percent to 19 percent. During those years, the share of GNP (though not the amount) devoted to the military dropped for industrial countries but increased for developing countries—and nearly doubled for the poorest group of countries. From 1983 to 1986, recessions forced budget cuts on developing countries as a whole, but education and health budgets were reduced more than military budgets. Although Africa has been ravaged by economic decay and famines, military spending in Africa more than doubled in the 1970s and held firm in the early 1980s.

Another link between arms and hunger is that strengthening of military forces often leads to tighter control over society by a ruling elite, making it more difficult for people to participate freely in efforts to work their way out of hunger and poverty. Democracy does not guarantee the elimination of hunger (consider the United States). Nor does totalitarian rule guarantee its increase (consider progress that China and Cuba made against hunger in recent decades). But a politically free society that places high value on opportunities for poor people to improve their living conditions is more likely than others to make enduring progress against hunger. Militarization diminishes that likelihood.

Because of these connections between arms and hunger, the changes that swept through Eastern Europe and the Soviet Union in 1989 could allow for new progress against hunger. Now that the Cold War has come to an end in Europe, the superpowers are scaling down their competition in the Third World. Instead of fueling conflict, they are looking for negotiated settlements in several regions. This trend coincides with regional initiatives such as the Esquipulas peace accords in Central America (for which Costa Rica's former president, Oscar Arias, received a Nobel Peace Prize). Such home-grown peace initiatives now have more chance to take root.

For the first time in decades, a global trend toward less conflict, increased reliance on non-violent solutions, and substantial military reductions that might free more resources (North and South) for peaceful development may be emerging. The world has an opportunity unmatched since the immediate aftermath of World War II to turn from investing in arms to investing in human lives. And that could lead to a breakthrough against hunger.*

Overview of Hunger

There was an earlier surge of international concern about poverty and hunger in the mid-1970s. In November 1974, the U.N. World Food Conference proclaimed the bold objective "that within a decade no child will go to bed hungry, that no family will fear for its next day's bread, and that no human being's future and capacities will be stunted by malnutrition." Not only was that promise unfulfilled, but a decade and six years later, hunger is a haunting daily experience that has increased by about one-third.

Almost 40,000 children under five die each day from malnutrition and infection. Most of these deaths are preventable. The number of deaths is the same as if one hundred jumbo jets, each loaded with 400 infants and young children, crashed to earth each day—one every 14 minutes. Yet the children who die because of hunger receive relatively little attention in the press or in political discussions. Their deaths constitute what UNICEF's executive director, James P. Grant, has called "a silent holocaust."

Hunger is not the result of a worldwide food shortage. On the contrary, per capita global food production has been increasing, with occasional dips, for a number of decades. Continued increases in food production will be

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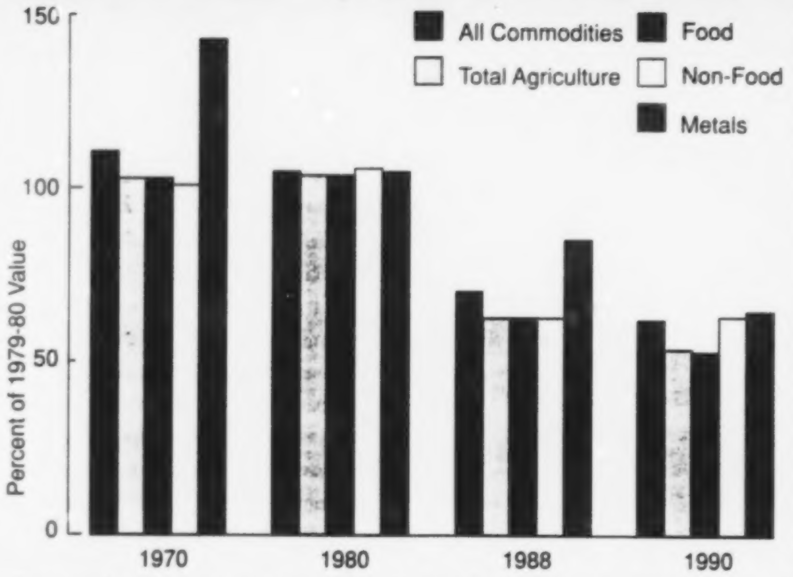
*The Persian Gulf crisis, touched off in August 1990 by Iraq's invasion of Kuwait, confirms rather than contradicts the importance of moving toward global demilitarization. The crisis was in part a consequence of the Cold War, whose sponsors have poured billions of dollars worth of arms into the region, and it underscores the need for reductions in military aid and arms sales.

Because Iraq and Kuwait depend on imports for nearly all their foodstuffs, the United Nations embargo has already subjected innocent civilians in the two countries to food shortages.

At the same time, it is heartening that early efforts to resolve the crisis have relied significantly upon the United Nations and the Arab League. Such international institutions must take the lead in peace-making and peace-keeping if the world is to shift resources away from military spending and into peaceful development. —August 30, 1990

Declining Value of Commodities Sold Primarily by Third World Countries

Index: 1979-80 = 100



For two decades the primary products that Third World countries trade have declined in value. The 1980s were particularly disastrous. The result is that countries have less money for imports, investment, and debt repayments and must pay relatively more to import goods.

Source: Alex Ashiabor, "UNCTAD's Agenda for the 1990s," *IDS Bulletin*, 1990, from World Bank Data.

required in the years to come. Food production has not kept up with population growth in some countries (mainly in Africa). But hunger is due primarily to poverty and to the powerlessness that almost always accompanies poverty, not to production shortages. When people are too poor to produce or buy the food they need, hunger and food surpluses can exist side by side, as India and the United States illustrate.

The people who are chronically hungry or vulnerable to periods of hunger during the year—possibly approaching a billion—have much in common. They are extremely poor. They have low incomes and few assets (land, animals or even household labor) to sustain themselves. Most belong to groups having the least access to social or private services. Most lack the political power to effectively act on behalf of their interests. Many live in remote regions, and some are part of minority ethnic groups.

Individual neglect or misguided choices often contribute to hunger. But the social, economic and political conditions under which people live do far more to determine whether they are adequately nourished or go hungry.

The World Bank estimates that 1.1 billion people in developing countries are poor (using $370 per person per year as the poverty line). Below that level of income, about $1 a day, people are unable to meet their basic needs. Families in such poverty spend at least half of their income on food, usually a staple such as rice or plantain, but will often not consume enough of the staple to live energetic and fully productive lives. People who subsist on the equivalent of $1 per day are also vulnerable to more acute hunger. If a crop fails or the family's chief income-earner gets sick, they drop from bare subsistence to outright hunger.

The World Bank estimates that 630 million people in developing countries have incomes below $275 per capita per year, what the World Bank calls "extreme poverty." At this level of income, infant and child mortality is quite high. Hungry children are often unable to withstand childhood diseases and the diseases caused by unclean drinking water. In Bangladesh, hungry mothers sometime feed their children a gruel made from leaves; it has no nutritional value, but quiets a child's crying.

During the past decade the number of people experiencing hunger has substantially increased, although hunger now affects a smaller proportion of the global community than two decades ago.

Hunger is not confined to the Third World. There are 18 to 20 million people in the United States who are so poor that they do not get the nutrients they need. However, hunger is far more prevalent and severe in Third World countries than in industrialized countries.

Almost half the world's malnourished children live in the seven nations of south Asia. At the same time, parts of Asia, such as China, North and South Korea, Thailand and Malaysia, have seen dramatic improvements in nutritional status during the past four decades. India and China are still among the world's poorest countries, but both nations have been able to eliminate the recurrent famines they used to suffer. Both nations produce enough food to feed themselves, and they have both established effective systems of famine relief. China has managed to reduce infant mortality (one indicator of hunger) from 252 deaths per

1,000 live births in 1950, the year after the communists achieved political control, to 26 in 1990.

Africa has been the focus of much attention regarding hunger in recent years. Internal wars have produced famine and starvation conditions in Ethiopia and Sudan in 1990. Prolonged South African-supported insurgencies in Angola and Mozambique have resulted in the deaths of nearly one million people. In these wars, disruption of food production and distribution has been intentionally used as a weapon against civilians.

> bove and beyond these real dif-
> ulties [in the data], we may not
> know how many hungry people
> ere are in the world because we
> may not *want* to know."
> —*World Hunger Program,*
> *Brown University*

After years of gradual improvement in nutritional conditions in Latin America the 1980s saw a reversal in several countries. Many countries faced severe economic crises as foreign debts came due. Hyperinflation, unemployment and growing inequalities in wealth and power contributed to more hunger in the region. In trying to overcome these economic problems, governments have often taken steps (closing uneconomic government-owned companies, for example) which resulted in additional social hardship. Millions of Latin Americans who had escaped poverty have fallen back into poverty, and the suffering of many poor people has become more acute.

Hunger is most prevalent in rural areas. While rural areas are associated with agricultural land and food production, the extent of rural hunger reflects the difficulties many people face in gaining access to adequate land to meet their income and food needs through production. Cities offer poor rural people the hope of escape from joblessness and low incomes, so slums have multiplied. The economic crisis that many countries suffered in the 1980s hit the urban poor hard through unemployment and cuts in urban services.

Young children are the most vulnerable to hunger. Figures are often overwhelming in their severity: Nearly 80 percent of children between their first and second birthdays in south Asia (particularly in Pakistan, India, Nepal, Bangladesh) lack sufficient food and are underweight, and girls are more frequently undernourished than boys. Children between one and three are most frequently and severely underweight. In a UNICEF survey of 76 developing countries, stunting was seen in more than one-third of children aged two- to five-years-old.

Among adults, women are more frequently undernourished. Evidence from several countries indicates that women may not consume a proportional share of household food. If food is short, women may eat less, saving food for children (especially boys) or husbands. Women are pivotal to the nutritional well-being of household members. Women's work and incomes have become increasingly important for household survival in recent years. Yet the many demands on the time of low-income women can result in reduced time for food production, food preparation and child care activities, all of which negatively affect the nutritional status of the entire household. About half of the women in the Third World suffer from anemia caused by iron deficiency and malaria. The nutritional status of women affects the birthweights of babies, and an estimated 16 percent of newborns are below acceptable and safe weights. Low birthweight infants face greater difficulties in resisting diseases and surviving.

In general, men are likely to be better nourished than women, but in conditions of poverty, undernutrition affects men also. Various reports indicate that men's abilities to work are limited by undernutrition. Other reports speak to the difficult and culturally reinforced choices facing low-income households; men are likely to get more to eat in order to assure their ability to work and earn a wage.

Counting Who Is Hungry

This report draws on data developed and collected by the World Health Organization (WHO), the Food and Agriculture Organization (FAO), the United Nations Children Fund (UNICEF), and the World Bank, as well as bilateral aid agencies, notably the U.S. Agency for International Development (USAID), and several non-governmental organizations (NGOs).

There are few reliable country-level estimates of the extent of hunger *per se*. Estimates of hunger are usually based on scattered surveys of school-aged children and women. Other statistics (infant mortality, for example) are usually used as a proxy for information on hunger, but statistics on infant mortality are sometimes unreliable. Much of the U.N. data comes from government sources, and government statistics are often weak. Few governments devote significant resources to regularly assessing the conditions of low-income and hungry people.

The problems connected with getting adequate and credible data arise, in part, from difficulties in defining hunger. There are numerous ways of defining and quantifying hunger. For example, an often-cited indicator of national nutritional status has been developed by FAO. Known as "per-capita calorie availability," the figure is derived by determining the total calories available from all food sources for a given time period. The requirements of the total population are estimated, based on the calorie requirements of typical individuals in various age groups. Comparing the two figures provides a useful indication of average nutritional conditions. However, as with any average, individual and group differences are obscured.

Other methods also measure nutritional status, each reflecting a somewhat different way of looking at hunger. Food consumption surveys focus on dietary deficiencies among hungry people. Population surveys measure the size of children and compare height, weight or mid-arm circumference to adequately nourished children of the same age. Such survey data are snapshots in time, not always sensitive to seasonal conditions, and are too rarely followed up to indicate trends.

Undernutrition may be mild, moderate or severe; it may be of short or long duration. And, of course, there is another dimension of malnutrition—over-nutrition, with related cardio-vascular health problems. As one analyst of nutrition-related data from Africa has observed, the various indicators "do not integrate into a picture that can be neatly summarized by a few numbers or statements."

Quantifying and identifying hungry people is a complex task. Even more difficult is effectively addressing the complex causes of hunger. Recent history suggests, however, that notable progress is possible: Policy choices can be made to give hungry people a chance to obtain adequate nourishment. ■

Definitions

The term hunger refers to the condition in which people lack the basic food intake to provide them with the energy and nutrients for fully productive, active and healthy lives. The consequences of hunger are both individual and social. Malnutrition refers to inadequate or inappropriate intake of any nutrient. It applies to overeating as well as eating too little, or it can mean an unbalanced diet. The kind of malnutrition that translates "hunger" into scientific terms is "undernutrition." Undernutrition is the lack of enough food energy (measured in calories) for an active life.

In children, hunger can prevent normal growth, leaving them stunted (short for their age), wasted (low weight for their height) or underweight (low weight for their age). Hunger often interacts with childhood illnesses such as measles and diarrhea to cause added suffering or death. Mental and physical development may be impaired which has long-term consequences for individual achievement. Societies lose creative and energetic people and may have to bear the added costs of caring for people disabled by hunger.

The concept of vulnerability of individuals, households or communities and nations to hunger also deserves attention. Many poor people have enough to eat most of the time, but their poverty makes them especially susceptible to changes in the economy, climate or political conditions. For example, landless laborers are vulnerable to hunger as the demand for their labor changes during the farming season. If they are unemployed or underemployed, they and their families could lack the resources to purchase the food they need. In Africa, the "hunger season" is a regular feature of many societies, when grain reserves from the previous harvest run out before the new harvest is brought in. If the rains needed for growing the new crops are late or inadequately distributed to regions with shortages, people may go hungry for weeks or months. As a number of the country studies show, entire nations can be vulnerable to international economic changes and pressures. Robert Chambers, who has written extensively about the causes of hunger, notes that vulnerability "means not lack or want, but defenselessness, insecurity and exposure to risk, shocks and stress." ■

Asia and the Middle East

Food production has increased in most Asian countries during the past 30 years. Green Revolution technologies and national policies have potentially eliminated the threat of famine. Self-sufficiency in rice production was achieved in many countries, notably India, Indonesia, Sri Lanka and China. These dramatic improvements have diverted attention from the problem of access to food by millions of poor Asians. Hunger and poverty still persist in large measure in Asia.

While some Asian countries have experienced a decline in the prevalence of hunger, the number of hungry people or those vulnerable to hunger in Asia as a whole has continued to increase. The World Bank estimates that 800 million of the world's 1.1 billion poor people are Asians. Of these, 420 million are "extremely poor" and are almost certainly hungry.

A principle cause of persistent hunger is that increased agricultural production has not benefited all people equally. Inequalities have widened, since wealthier farmers have been better able to purchase the necessary inputs. Furthermore, production increases have slowed in most areas in recent years because most of the irrigated land capable of growing rice and wheat is already being used.

Asia contains some of the world's newly industrialized countries (Singapore, Taiwan, Hong Kong and South Korea) where hunger has mostly been overcome through domestic policies. These countries have invested much in health and nutrition programs and in rural development. For example, South Korea and Taiwan have both subsidized food, enabling urban poor people to purchase food while paying farmers higher prices for their produce. However, South Korea has accrued a large foreign debt, and the effects of the Green Revolution and industrialization have led to the degradation of the environment there.

Among many of the poorer countries, there are wide differences. During the past 40 years, for example, China has vastly improved the well-being of its citizens. Income disparities within China are not nearly as wide as in other countries in south and southeast Asia.

Hunger and poverty trends in the region during the past two to three decades have been mixed. Poverty and hunger have decreased in Thailand and China; in India and Pakistan, the incidence of poverty and hunger has decreased only modestly. On the other hand, hunger and poverty appear to have increased in the Philippines, Nepal, Bangladesh and Sri Lanka. Vietnam, Cambodia and Afghanistan have endured military conflicts that have been disruptive to food production; they rely heavily upon food aid.

Poverty and hunger in Asia are closely linked to people's access to land and adequate jobs and wages. Land distribution in south and southeast Asia is skewed, particularly in Pakistan, Bangladesh and the Philippines. Landlessness has increased in most countries, most notably in south Asia. Those who are landless and near-landless depend on wage labor to survive. Yet real wage rates have increased only modestly in India; in Bangladesh, Nepal and the Philippines, they have fallen (although there has been a slight upward trend in Bangladesh since the mid-1980s).

Many rural poor people have sought to escape poverty by migrating to urban areas. Yet wage labor opportunities in urban areas are limited, and surplus labor keeps wage rates low. One result is that the rural poor become urban slumdwellers.

Women and children in Asia are particularly vulnerable to hunger. There is a strong tradition of discrimination

The Green Revolution in Asia

Agricultural and development planners in the 1960s became increasingly preoccupied with the problem of feeding a rapidly growing world population. With recurring threats of hunger and famine and skyrocketing population growth throughout many countries in Asia, this region became a principle target for improved food production. Since the 1960s, Asian agriculture has indeed been transformed, and the problem of hunger, while still severe, no longer holds the threat of starvation that it once did.

In the 1960s, the obvious solution to feeding the growing population seemed to be to increase per capita food production. With support from the international donor community, by the mid-1960s scientific breakthroughs in developing high yielding varieties (HYVs) of wheat and rice paved the way for a "Green Revolution."

The goal of the Green Revolution was to increase national food production by developing early-maturing HYVs which were highly responsive to fertilizers, pesticides and irrigation. These innovations were implemented in the most favorable regions where farmers were most likely to realize the potential yields.

In this goal, the Green Revolution was an enormous success. In the eight Asian countries that produce 85 percent of Asia's rice (Bangladesh, Burma, China, India, Indonesia, Philippines, Sri Lanka and Thailand), HYVs alone add 27 million tons of food annually to production; fertilizers add another 29 million tons and irrigation 34 million tons. In Asia, per capita food production increased by more than 27 percent. In general, grain prices decreased, benefiting the urban poor people.

Despite the achievements, not all people have been equally affected. Many of Asia's poorest people live in marginal areas that cannot benefit from the new technologies. For example, India has seen growing disparities in wealth between states such as Punjab (where the technologies have been widely adopted) and Bihar, one of the poorest states in the country.

Disparities created by Green Revolution technologies must also be seen in the context of government policies—credit, tenure arrangements and marketing—all of which tend to favor adoption of these technologies by wealthier and larger farmers. Small landholders and tenant farmers often do not have access to credit or cash to invest in fertilizers, pesticides and irrigation systems. As a result, they are put at an even greater disadvantage in terms of producing more food.

While technological advances have played a phenomenal role in increasing food production, they have been less successful in meeting the food needs among poor people.

The vast number of hungry people in Asia show that increasing per capita yields is not the only answer. The question is not only how much food is produced, but who produces the food, where and under what conditions. A good beginning is seen in the willingness of those involved in developing the new technologies to listen to farmers and the landless poor and pay more attention to the immediate problems they face. ■

in south Asia against females revealed by higher morbidity and incidence of undernutrition among women and girls. In southeast Asia, more women have entered the workforce, which adds to their households' income. But the trade-off for working mothers can often be less time for breastfeeding and child care.

The governments of south and east Asia have generally supported poverty and hunger alleviation programs. For example, Sri Lanka has long subsidized food. India and Bangladesh have ration shops and rural work programs to generate employment and incomes. In East Asia, China, Korea and Taiwan have implemented impressive land reform programs.

Prospects for alleviating hunger in the 1990s are good for countries like Thailand, Turkey and China, which have seen improvements in the nutritional status of their citizens. In the countries of south Asia, massive poverty and hunger are likely to persist. In several countries, such as Cambodia, Afghanistan and the Philippines, conditions may worsen as civil conflicts persist.

China

China's social services and public policies have vastly improved the health and welfare of its citizens. Life expectancy has increased to 70 years in 1988 from 32 years in 1950. The infant mortality rate (IMR) has fallen to an estimated 26 per 1,000 live births in 1990 from 252 in 1950. However, economic indicators reveal that the present situation in China is not so bright. For example, agricultural production has stagnated during the past five years, and the rate of inflation has increased rapidly, reaching almost 26 percent by mid-1989. Although the majority of Chinese have their basic needs met and severe hunger is absent, undernutrition and poverty persist, particularly in the western provinces and minority areas. Further, a major struggle is occurring in China over human rights, democracy, and economic policy.

Of China's recent achievements, most notable is its ability to avoid severe famine, last seen in 1962. In the late 1950s, the Great Leap Forward program was introduced in an effort to industrialize the country quickly. Government negligence of the agricultural sector led to three consecutive years of crop failure, and some sources believe that several million people may have starved to death. Since then, famine relief programs and revised economic policies have prevented mass starvation. Severe hunger, in general, no longer exists. Where once half or more of China's people were hungry, only a very small percentage are now.

Surveys in 1975 and 1985 of children under seven years old in selected provinces show a general improvement in nutritional status. Children in urban areas showed greater improvement than their rural counterparts. A 1987 survey in nine localized areas showed that stunting affected up to 25 percent of children under seven years old in minority areas; about 15 percent were underweight in more food-secure areas. The highest percentage of underweight and stunted children were in a minority group area.

Studies have shown that the poorer regions of China, namely the western and central provinces (such as Gansu, Ningxia, Guizhou and Qinghai) and minority autonomous regions (such as Tibet and Mongolia) have higher mortality and morbidity rates due to numerous infectious diseases and substantial undernutrition. Health services in poorer regions do not match the national norm. The rates of illiteracy and population growth are higher in poorer regions than in other regions.

While there has been general improvement in nutrition in China, health problems arising from nutritional deficiencies persist. Reports indicate that the prevalence of anemia is high among pregnant women, although data are insufficient to determine just how widespread it is. Anemia is less common in urban areas. Goiter is seen in nearly every part of China, affecting 35 million people, or 3 percent of China's population.

In the early 1950s, collectivization in agriculture was introduced to China with the coming to power of Mao Zedong. The incentive to produce food at maximum output was never strong and, by the 1970s, agricultural production was stagnant and peasant incomes were low. With the introduction by Deng Xiaoping of the Contract Responsibility System in the late 1970s and early 1980s, farms were decollectivized. Individual farm families are now tenants with managerial control of the land they cultivate, without actually owning the land. The system requires farmers to sell a quota of their produce to the state; any output above that quota may be kept by the farmer or sold, usually at prices significantly higher than the state pays.

The initial results from the agricultural reforms were promising. In the early 1980s, productivity increased spectacularly, as did individual incomes, and overall poverty declined. However, disparities in incomes within different rural areas have been heightened by the reform, with the irrigated coastal areas benefiting the most. In addition, grain production stagnated in the mid-1980s, falling short of the growing population's needs. Production was further hampered by droughts and floods during 1988 and 1989 that affected 21 percent of cultivated land. The State Statistical Office in China reported that in 1988, 6 million hectares were affected by floods, and 15 million hectares were affected by drought, the worst since 1978. In the 1989 season, China harvested a record grain crop, but agriculture remains susceptible to erratic weather conditions. The state has recently given increased attention to agricultural growth. Investments in irrigation systems and fertilizer production have increased, and more than half of all rice farms now use high yielding varieties of rice, which provide higher yields under well-managed growing conditions.

Prior to the agricultural reforms, many cooperative members were employed in non-essential jobs. Many of those positions have since been abolished, leading to a labor surplus and widespread under- and unemployment. By 1987, 30 to 40 percent of rural workers were underemployed. Women were particularly affected. Under collectivization, women worked in the fields; pregnant and nursing women were given the lighter tasks and were offered maternity leave. Since the reforms, many women have been limited to working in their households because of the labor surplus and increasing underemployment.

The disparate effects of the rural reform, the surplus of rural labor, and the attraction of higher wages in urban areas led to the reappearance of rural to urban migration. In the late 1980s, due to deteriorating conditions in rural areas, there was a significant increase in the number of migrants, threatening to worsen the already high urban unemployment. Government programs guarantee urban residents access to rationed goods and provide them with labor insurance (which includes health care and disability provisions). However, there are strict controls which exclude migrants from these programs, leaving them susceptible to higher prices due to inflation and lower living standards. The government officially identifies about 80 million migrant workers. These people have been most affected by economic austerity measures which led to increased urban unemployment in 1989 and 1990.

China's ethnic minorities are also vulnerable to poverty and undernutrition. The Mongolians, Uighurs, Tibetans and 52 other minority groups make up the 64 million people living in autonomous regions and military-occupied colonies. Comprising 6 percent of China's total population, ethnic minorities live mostly in mountainous, border and remote areas concentrated in the northwestern and southwestern regions. According to the *China Daily*, 20 percent of the total population residing in minority-inhabited areas live below the poverty line. Due to the general lack of social services in these areas, the ethnic minorities often experience higher rates of illiteracy, infant mortality and morbidity, and shorter life expectancies than others in China.

Tibet is an example of a minority region in the southwest that is susceptible to hunger. In 1951, Tibet was annexed by China. A push for Tibetan independence in 1959 was crushed, forcing the political and religious leader, the Dalai Lama, to flee to India. Since then, there has been sporadic resistance but the Chinese remain in control of the region.

The climate of this rugged mountainous region is harsh; population density is sparse compared to China as a whole. Although per capita health care expenditures were higher in Tibet in 1981 than in other parts of China, Tibet has not benefited from other social services to the same extent as the nation as a whole. Like other minority areas, the provinces in western and central China are also vulnerable to hunger. These regions contain a large concentration of poor people. Agriculture is very difficult at best, and poor infrastructure obstructs the movement of food from areas of surplus to areas of lack. The level of health services is below the national average.

Gansu, located in the northern central area of China, had the lowest per capita rural income in China in 1986.

Much of Gansu is located on the Loess plateau where the soil is highly vulnerable to erosion. Only 7 percent of Gansu's total land area is cultivable. About one-quarter of the cultivated hilly land was terraced in the late 1950s which ironically, some experts believe, accelerated erosion and reduced the productivity of the land.

In 1981-82, wheat yields in the Dingxi district of Gansu were only 750 kilograms per hectare, less than half the normal yield. Seventy to 80 percent of the population experienced severe food shortages. Even in 1983-84, a period of relatively good rainfall, average-sized farms yielded barely enough for a family of four. If yields were to fall due to serious drought conditions (as in 1982), most people in Gansu would experience large-scale hunger.

China continues to adjust its policies to maintain national food security. However, many agriculture areas are subject to periodic drought which affects production. Food imports have covered shortfalls in domestic production. High rates of inflation and unemployment at the end of the 1980s portend difficulties in sustaining improvements in nutritional status in the 1990s, particularly in extending improvements to people and areas of greatest need.

Finally, the violent suppression of the pro-democracy movement by the Chinese authorities in 1989 generated further suspicion and doubt about the leadership and its policies. The economic and political outcomes of these events, both inside China and in China's relations with the international community, will be major factors in the country's ability to manage economic reforms that would improve living conditions. Thus, China's economic stability will be a key variable in its food security in the 1990s.

> "There is no famine, no starvation in Vietnam anymore, but there are still people who don't have enough to eat."
> —*Nguyen Van Phuoc director of the Agriculture Ministry's international affairs department in Hanoi*

Vietnam

After 15 years of importing food to meet its domestic needs, Vietnam became the world's third largest exporter of rice in 1989, exporting 1.4 million tons. However, it has been reported that the government sold this rice in a desperate attempt to gain foreign exchange, and reimported less expensive, lower quality rice to meet its domestic consumption needs. Food security remains to be achieved for a large portion of the population.

In 1982, the National Institute of Nutrition carried out a survey in Vietnam which determined that the average diet of Vietnamese farming households is 10 to 15 percent deficient in calories. In 1986, 52 percent of children under five were underweight; 60 percent suffered from stunting. The maternal mortality rate (MMR) was 140 per 100,000 live births, and 18 percent of all infants had low birthweights; both are indicators of poor maternal nutrition.

Much of the urban population is vulnerable to hunger. In 1988, the government abolished its subsidies on food. And although wages have been increased to enable workers to buy rice at market prices, spiraling inflation has diminished the purchasing power of these wages. Unemployment and underemployment are rampant. Only one-quarter of the young people who enter the workforce each year find jobs. Vietnam also has a poor transportation system, which makes shipping food, particularly perishable items, into urban areas difficult. Thus, food is limited, pushing food prices even higher.

Health problems due to nutritional deficiencies are common, particularly among women and children. In 1988, among women who were not pregnant, anemia afflicted 62 percent in rural areas and 18 percent in the capital, Hanoi; up to 70 percent of rural women who were pregnant showed signs of anemia, as did at least 44 percent of pregnant women in Hanoi. Goiter is widespread, particularly among the seven million people from various ethnic minority groups who live in the mountainous areas. Vitamin A deficiency is a serious problem. Children under three years of age are particularly vulnerable to health problems arising from vitamin A deficiency.

Several historical factors contribute to the problems of food security. One important factor is that Vietnam had been, until recently, in a continual state of war since 1945: first the war of independence against France, then civil war with U.S. intervention, then its invasion of Cambodia.

Massive bombing by the United States during the 1960s and early 1970s destroyed storage and irrigation facilities which have not been fully restored. Defoliants dropped on Vietnam during the war have continued to affect the ecostructure. Mangrove trees, for example, are vital to the ecosystems of southern Vietnam: they rise on stilt-like roots above swampy areas next to rivers and help trap silt to form new land and provide rich harvests of fish. But because of the defoliants, more than one-third of the mangrove forests were destroyed. In central Vietnam, defoliants leveled tropical forests thousands of years old, thereby changing the ecological balance. Without the forests, temperatures in the area are higher. Summer winds sweep over the land, drying it out; the rainy season now brings floods.

Another important factor affecting agricultural production is the economic boycott imposed on Vietnam by the United States and many of its allies since the invasion of Cambodia in 1978. This has cost Vietnam over a decade of aid and investment and has reduced its capacity to purchase agricultural materials and machinery from non-communist countries. Although Vietnam withdrew its troops from Cambodia in 1989, the United States and many of its allies still observe the boycott.

A final important factor is the inability of the government to gain popular acceptance for its various land and economic policies. In the late 1950s, the Vietnamese government carried out a program of forced collectivization of land in the North in an effort to rectify the disparities of wealth left from French colonization. All land was confiscated and "equally" distributed to all. Farmers were forced to join cooperatives and bring in all their own tools. During this drive, officials flagrantly abused their authority, confiscated and retained prized lands for themselves and their families, while poorer farmers were given remote and less fertile land.

Because of the corruption surrounding collectivization, there was a lack of incentive among farmers to do maximum work. In the North, the collective farms were neglected in favor of private household plots. Because of frequent land reassignments, most farmers invested little in land improvements. Moreover, the controlled prices for rice were so low that farmers had little incentive to produce beyond subsistence levels, thus affecting the government's supply.

In the late 1970s, the government introduced collectivization to the South; land was redistributed and farmers were organized into production groups. The reforms met with much resistance, particularly in the fertile provinces of the Mekong Delta. Although the sharing of labor and resources became more common, farmers continued to cultivate their own land. Consequently, collectivization was never fully implemented in the South. By 1986, only 6 percent of the farmers in the Mekong Delta provinces belonged to collectives.

In 1981, the government revised its agricultural policies to defuse growing unrest over collectivization and boost incentives for better production. Farmers could enter into contracts with the state to produce at a certain level of output; the produce would then be sold to the state at fixed prices in exchange for necessary inputs. Any output beyond the fixed level could be used for private consumption or sale. Rice production grew in the following years but could not be sustained, chiefly for two reasons. One is that it was difficult for the government to import the necessary agricultural inputs because of the boycott and lack of foreign exchange. The second was that inclement weather and pests in 1987 and 1988 drastically reduced rice yields, placing Vietnam in a near-famine situation.

The northern part of Vietnam, which produces only 5 percent of the nation's food but sustains 22 percent of the population, was hardest hit by the food crisis. Twelve out of 19 provinces in the north were severely short of food. In issuing an international appeal for emergency food aid, the government reported that seven million people were at risk of starvation, three million of whom had already suffered severe reductions in their food intake, and 1.2 million of whom were children under 14.

In 1988, the government introduced new laws granting farmers long-term leases and suspending mandatory sales of output to the state. Although the state maintains that all land is state land, the guarantee of long-term leases has encouraged farmers to invest in land improvements and to increase output.

By early 1990, reports from Vietnam indicated that the food situation had improved dramatically. However, the latest reforms have introduced new disparities in wealth distribution. There are still some who do not get enough to eat, and poverty persists. It is estimated that in Nghe Tinh province in the north, 25 percent of the farmers have become comparatively wealthier, while 30 percent—about 1 million farmers—remain hungry.

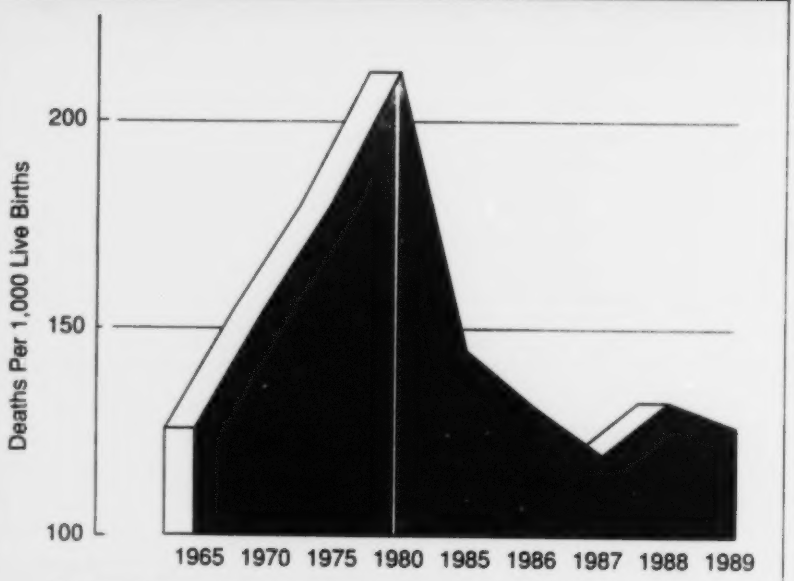
"In previous years there was a shortage of rice and we had to buy it from other countries. Now we have no more shortages, but still people have no money....Poverty is still a social problem we have to solve."
—*Nguyen Van Phuoc director of the Agriculture Ministry's international affairs department in Hanoi*

Cambodia

Two decades of war, violence and repression have resulted in chronic food shortages and nutritional deprivation in Cambodia. The country's experience is closely linked to that of Vietnam because of its proximity and long historical ties with the country.

Infant Mortality in Cambodia

1965-89



The peak figure of 212 in 1980 is at the end of Pol Pot's reign of terror.

Source: UNICEF, *Children and Women in Kampuchea: Situation Analysis*, 1988.

During the 1960s and early 1970s, the United States extensively bombed the Cambodian countryside in an effort to destroy North Vietnamese bases and supply centers, killing 500,000 to 1 million people and forcing others to abandon the land. Large parts of the land and many draft animals were destroyed, as well. At the end of the war, Pol Pot, leader of the Khmer Rouge, came to power. The Khmer Rouge, a Chinese-backed communist group, believed that making the peasantry the economic base of the country would bring about a more equitable society. In carrying out this policy, the Khmer Rouge forced the population out of urban areas and into rural communes. The Khmer Rouge also carried out a policy of eliminating the middle class and intellectuals. Consequently, the four-year reign of Pol Pot was marked by an estimated 700,000 to 1.2 million deaths from starvation, forced labor or executions. Tens of thousands of Cambodians fled to Thailand and Vietnam to escape the Khmer Rouge.

Destructive cross-border raids by the Khmer Rouge, coupled with the large influx of refugees, prompted Vietnam to invade Cambodia in 1978 and oust Pol Pot. A few months later, a new government was installed by Vietnam. Since then, the government has worked toward the recovery of the country. The country faced a starving population, international isolation arising from an economic boycott imposed on Vietnam and Cambodia by the United States and its allies, and a continuous guerrilla war with the Khmer Rouge, who struggle to regain power.

Although nutritional levels improved during the 1980s, undernutrition of children remains a serious problem. A 1986 survey of children under three showed that nearly 40 percent were underweight and approximately 22 percent of the children were stunted. A survey in the following year in Phnom Penh, the capital, showed that 11 percent of under five-year-olds were wasted. Further indicators of nutritional problems are seen in women. The maternal mortality rate (MMR) is estimated to be in the range of 400 to 500 deaths per 100,000 live births. The Ministry of Health estimated in 1985 that between 10 percent to 15 percent of children were born underweight, reflecting the poor nutritional status of the mothers.

There are little data on nutritional deficiencies in Cambodia. Vitamin A deficiency is believed to be widespread due to the large number of reported cases of nightblindness (an early sign of vitamin A deficiency). Goiter is prevalent in the mountainous northeastern provinces; up to 50 percent of the population in Ratanakiri and Mondulkiri provinces may be affected by iodine deficiency. No information exists on the long-term physical and mental effects of food deprivation and undernutrition of Cambodians who survived Pol Pot's reign.

In 1989, the government introduced rural economic reforms in an effort to increase rice production. Collectivization has been abandoned, and farmers are being granted long-term tenure to their land. Farmers now have the right to pass the land on to their heirs. The government has also increased its buying price for rice. Farmers responded by providing higher-than-average yields in 1988 and 1989; a good harvest is expected in 1990.

However, lack of infrastructure will hamper further economic improvement. Roads are deteriorating, irrigation does not extend to most rice fields, only 40 percent of the bridges destroyed in the 1970s have been repaired, and there is a lack of transport vehicles. Also, the high population growth rate makes it difficult for production to keep pace.

The continuing guerrilla war with the Khmer Rouge restrains economic recovery. Cambodia spends about 30-40 percent of its budget on defense. Guerrilla tactics disrupt the transportation and distribution of food within the country, as well as agricultural production. Provincial governors in western Cambodia report that half the arable land is uncultivated because of the threat of guerrilla violence.

Since the withdrawal of Vietnamese troops in September 1989, the Khmer Rouge, based in refugee camps along the border in Thailand, has begun to take control of some territory in northern Cambodia and move its populations into these areas. Although the recent rice harvest assures plenty of food for the new arrivals, camp refugees do not have enough money, farm tools, draft animals or housing material to ensure future survival. There is also concern that the battle for control over territory between the Khmer Rouge and the Cambodian government will disrupt future harvests and create another food crisis.

Efforts to achieve a political settlement in Cambodia have not been successful. Nor is the economic outlook hopeful. In mid-1990, the Cambodian government was informed by the Warsaw Pact countries of eastern Europe that aid will be replaced largely by pay-as-you-go commercial exchanges and that an outstanding loan to the Soviet Union will come due as of January 1991. This aid provides Cambodia with 80 percent of its revenues. Because of the ongoing economic embargo by the western countries, Cambodia is prevented from finding alternative aid. Until a political settlement is reached to end the warfare and the embargo is lifted, hunger will continue to be a part of the lives of Cambodians.

Thailand

Thailand is the world's leading rice exporter; food crops are the main source of the country's export earnings. Since the 1960s, the economy has experienced impressive growth compared to its Asian neighbors, with particularly high growth rates in 1988 and 1989 (11 percent and 10 percent, respectively). The number of underweight children steadily decreased in the 1980s. Pockets of hunger still exist, particularly in rural areas and urban slums. It is estimated that a quarter of the population live in poverty areas where the incidence of undernutrition is high.

In 1987, nearly 26 percent of children three years old and under were underweight; 22 percent of the children were stunted.

Of the rural areas, the northeast region has the highest concentration of Thailand's poor and hungry people. A 1982 survey revealed that almost half the population in this region lived below the official poverty line of 2000 baht per person per year, or U.S. $100. A survey by the Ministry of Public Health in 1980 found nearly 60 percent of preschool children in the northeast to be undernourished, compared to 47 percent in the south. Fourteen percent of the babies in the northeast were born underweight in 1983, which reflects the poor nutritional status of the mother. This was the highest proportion in the country.

The vast majority of Bangkok's seasonal migrant workers (most of whom are from the northeast) live in the slums. Households living in urban slum areas are at risk to hunger. Forty percent of all families living in Bangkok slums in 1982 consumed an average of 70 percent of the recommended daily allowance of 2,100 calories. A 1982 survey revealed that, in urban households with incomes of 1000 baht or less (U.S. $50), food accounted for more than 60 percent of total expenditures.

Problems arising from nutritional deficiencies persist in Thailand. In 1985 about half the women between 15 and 49 years of age suffered from anemia. Anemia is also evident in about 10 to 30 percent of preschool children and in about 20 percent of school-aged children. Nearly 15 percent of the population have goiter due to iodine deficiencies. Vitamin A deficiency is one of the major nutritional problems in Thailand, especially in the northeast region.

The northeast is agriculturally disadvantaged compared to the rest of Thailand. Roughly one-third of the land area is unsuitable for cultivation. Another third is suitable for rice cultivation but yields are lower than elsewhere. Agricultural production is the main, and often the only, source of income for three-quarters of the inhabitants of this region. The average annual income of a farmer in the northeast is $325, compared to $850 for farmers in the rest of Thailand.

Another major problem in the northeast is the rapid population increase. Between 1960 and 1980, the population of the region almost doubled. This reflects in part a typical strategy of the poor people in Third World countries to increase household income by increasing the number of laborers. While this strategy may prove successful for individual families, collectively it increases the pressure for more land. One result is the proliferation of smaller farms. A minimum of 4.8 hectares is considered necessary to guarantee household food and cash needs. One 1983 study found that 18 percent of farms were smaller than 1.5 hectares.

Consequently, many people are expanding cultivation to marginal areas such as steep slopes and formerly forested areas. Cultivation and aggressive logging for export have increased deforestation alarmingly. In 1981, only 16 percent of the northeast region was covered by forests, compared to 27 percent in 1975. This has led to soil erosion and flooding.

Because most farmers in northeast Thailand depend upon farming in the rainy season and since alternative sources of income are limited, un- and underemployment are common. The data on rural unemployment for Thailand from the Labor Force Survey of the National Statistical Office is misleadingly low (2 percent). This is because many laborers are classified as "waiting for the agricultural season" and considered to have left the labor force, rather than being unemployed. In 1982, 5.5 million workers (or one-quarter of the total workforce) were classified as "waiting"; another 5.3 million workers were underemployed.

A prolonged dry spell in early 1990 has affected an estimated 275,000 hectares in the northeast, north central and southern regions. Since the previous two harvests have been good, there will be ample supply of rice, although exports are expected to decline from previous years. Food prices may rise as a result.

Thailand has relied on increasing rice production through opening more land to cultivation. As in the northeast, however, other areas are beginning to experience land shortages and erosion. Manufacturing and industry have contributed to the country's economic growth, but two-thirds of the workforce remains in agriculture where low incomes contribute to people's vulnerability to hunger.

The Philippines

Green Revolution rice was first developed in the Philippines, offering the promise of rapid growth in agricultural yields to cope with population increases and contribute to the country's economic growth. That potential has been realized more fully in other Asian countries than the Philippines. The country is among the world's leading exporters of agricultural products, but does not adequately feed two-thirds of its people. In the four- and a-half years since the "People's Revolution" brought Corazon Aquino to head the government, the promise of substantive change has not been fulfilled.

Overall, hunger and poverty worsened in the mid-1980s. A slight drop in the national percentage of underweight children occurred in 1986, but in several regions hunger continued to climb through the late 1980s. Statistics from the Philippines show a close relation between poverty and hunger. Approximately two-thirds of the population live in poverty, the largest proportion found in southeast Asia. Sixty-seven percent of households in the Philippines do not consume enough calories to meet their daily needs.

A national survey carried out in 1982 revealed that a third of children under 5 were underweight. Forty-two percent were stunted. The worst problems are in rural areas, often among children of tenant farmers and agricultural laborers. But urban poverty and hunger are also extensive. For example, in the capital area, metro Manila, there are an estimated 50,000 to 75,000 homeless children living on the streets.

Extreme inequality in access to income, resources and land is a dominant factor in the persisting hunger and poverty in the Philippines. Compared to its Asian neighbors, the Philippines has the most inequitable income distribution. The wealthiest fifth of the population controls 60 percent of the nation's income while the poorest fifth has but 5 percent. Government tax policies exacerbate inequalities: the poor pay 27 percent of their income in taxes while the rich pay 18 percent.

The pattern of landholdings and land use contributes to the disparities in the Philippines. In 1988, 80 percent of agricultural lands were owned by 20 percent of the population. About 70 percent of the households that depend on farming for their immediate food needs and income do not own the land they work. Instead, they are tenant farmers, heavily indebted to landlords or required to turn over up to two-thirds of their harvests. Or they are landless laborers, usually employed seasonally by large corporate farms or plantation owners on a contractual basis. Most agricultural workers are paid at one-third the official minimum wage (which itself cannot meet basic household needs) and experience long intervals between work. Real wages for agricultural workers declined during the 1980s, by 20 percent for plantation workers and even more for non-plantation workers.

One of the major expectations in the election of President Aquino was action on land reform. In June 1988, President Aquino signed into law an agrarian reform bill, and promised that her own family's largest estates would become a model for the reforms. However, like earlier land reform programs in the Philippines, the 1988 plan is full of loopholes to protect existing landowners. About 75 percent of the country's agricultural land is exempt from redistribution. The 10-year implementation period allows landowners time to subdivide their lands among family members and thereby evade the reform. And the president's family has avoided the sale of their 6,000 hectare sugar plantation by granting limited shares of corporate stock in the farm, rather than land, to the workers, whose dividends are an additional 2 cents a day in wages.

Adding to the country's burden is a debt of $24 billion. Interest and principal payments take 44 percent of the government's annual budget. For one set of loans on a $2 billion nuclear power plant which has never operated, the annual interest payment exceeds the country's annual health budget. The entire economy of the country has been altered in order to generate foreign exchange to meet the debt payments. Half of all agricultural lands produce cash crops for export. Export-oriented industries (such as electronics and clothing assembly) rely on low wage rates to make their products competitive on the world market and boost business profits. Because of a high official unemployment rate of 10 percent (but with about half of the total workforce actually unemployed or underemployed), many Filipino workers are forced to accept jobs where the wages do not meet household food and other needs.

The strategies used in dealing with the debt have likewise compounded the disparities in national wealth. While the country as a whole has shown an increase in average per capita income since 1980, the poorest two-thirds who are dependent on agriculture have experienced a decline while the upper third have enjoyed a healthy increase.

Approximately 70 percent of the Filipino population relies on agriculture and fishing for their livelihood. Yet their survival is seriously threatened by massive deforestation and destruction of fish breeding grounds. Of the country's original 30 million hectares of primal forest, less than 1 million remain. Logging, the need for land due to population pressures, expansion of agribusinesses, and land-grabbing by rich landowners contribute to the rapid deforestation. The loss of tree cover has resulted in extensive soil erosion of three-quarters of the nation's arable land.

The pervasive poverty and hunger and lack of progress around critical development issues such as land reform spawned several insurgency movements. One of the strongest is the New People's Army (NPA) which has recruited tens of thousands of rural people to its military and political opposition to the government. In 1987, the government announced a strategy of "Total War" against the rebels. The military solution has not ended the insurgencies, but has left 450,000 people displaced. The refugees have fled to overcrowded evacuation centers where food assistance is provided, though there is not enough food, and distribution is irregular. The Roman Catholic Church has attempted to assist the refugees, but the military has blocked those attempts because they believe the Church has aligned itself with the rebels.

"When they were working their land, parents and children worked side by side; if the children became hungry, they would gather something from the land. Now there is barely enough work for the men..."

—Roger Furrer, United Methodist intern working with the Institute of Religion and Culture in Manila

Other groups are actively involved in working on both local and national food security issues. For example, the National Peasant Movement of the Philippines is active in organizing and negotiating around farmer concerns. More than three-quarters of a million small-scale farmers are members of the movement. Its program calls for the free distribution of land to those who till it, beginning with the lands held by former president Marcos and his close colleagues and leading to wider redistribution in later years.

Another group is the National Federation of Sugar Workers on the island of Negros. Falling world sugar prices in the mid-1980s led to massive layoffs of hungry and poor plantation workers. The federation has responded by negotiating with plantation owners for land for members to use for food production. In several cases, the negotiations have been successful; other plantations have resisted. The government's land reform program is not likely to benefit unemployed rural workers. However, the union negotiations with land owners offer an alternative that could provide lasting benefits for poor and hungry people.

Indonesia and East Timor

The experience of Indonesia during its Green Revolution was remarkable. The country was transformed from the world's largest rice importer in the 1960s and 1970s to a small net exporter in the mid-1980s. However, production levels have been topping off since then. New gains are unlikely from existing technology. Approximately 94 percent of the rice land in Java, the most densely populated island of Indonesia, is planted with the higher-yielding rice varieties and roughly 87 percent is irrigated. Indonesian farmers use three times as much fertilizer as do Thai farmers.

Indonesia is an oil-exporter, and oil revenues are an important source of government development and social expenditures. Poverty decreased in the 1970s, especially on Java. When oil prices fell in the early 1980s, Indonesia reduced spending drastically. In implementing structural adjustment programs, the government made efforts to avoid cuts in rural development and social expenditures. These efforts were a factor in the continued decline of poverty and undernutrition in the late 1980s.

Yet, despite the improvements in overall national consumption, undernutrition remains a serious problem in Indonesia, particularly among children. Half of all children under five are underweight. Indonesia has the highest mortality rates for children in southeast Asia, with the exception of Cambodia and Laos. The overall infant mortality rate (IMR) in 1990 is estimated to be 74 per 1,000 live births, and the estimated under five mortality rate is 99 per 1,000 live births.

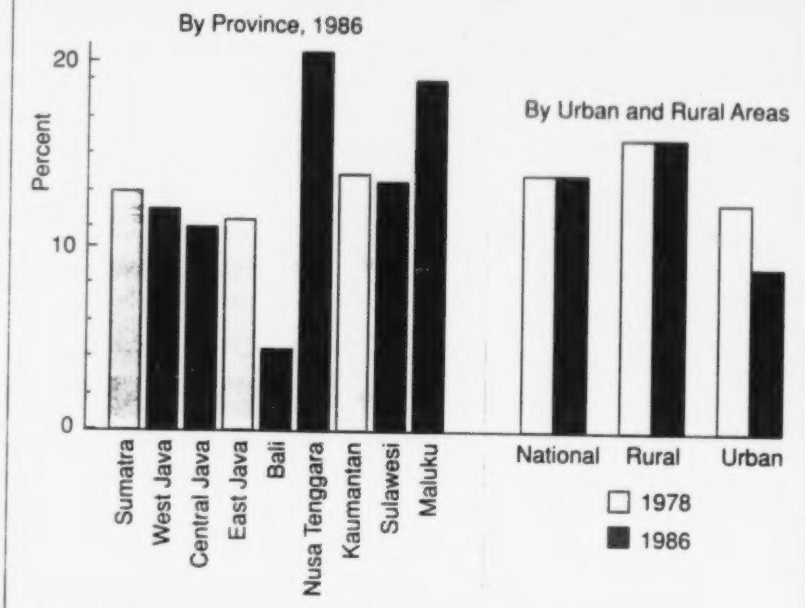
Individual provinces often experience greater hunger problems than the country as a whole. For example, at nearly 7 percent, East Nusa Tenggara had the highest prevalence of wasting. Areas with large numbers of severely underweight children include southeast Sulawesi, East Timor, west Kalimantan and Nusa Tenggara. The IMR varies from province to province; the highest IMRs are found in the eastern part of the archipelagos. For example, the IMR in 1984 for West Nusa Tenggara was 129 per 1,000 live births, while the national average was 90.

Fourteen percent of babies born have low birthweights. Estimates of maternal mortality vary widely, since more than 80 percent of all deliveries take place in the home, and accuracy in reporting is doubtful. UNICEF reports a national maternal mortality rate (MMR) of 450 per 100,000 live births. In rural areas, where women are among the poorest, the maternal mortality rate has been estimated at about 800.

Undernutrition is not all. Vitamin A deficiency among Indonesian children is reported to be one of the highest in the world. A study in 1980 revealed that 40 percent of preschoolers and 70 percent of school-age children suffered from anemia. A 1985 study showed that anemia also affected 56 percent of all women between 15 and 49, 70 percent of pregnant women, and 40 percent of men who worked on plantations or are among the "rural poor." A 1984 study revealed that 52 percent of school children in East Java and 54 percent in West Sumatra had the highest prevalence of iodine deficiency. In 1985, 6 percent of the Indonesian population suffered from goiter.

Although the urban population is relatively more affluent, it does not fare better than the rural population in terms of food intake. A government study in 1978 revealed that 58 percent of the urban population were calorie deficient, compared to 54 percent of the rural population.

Indonesia: Percent of Underweight Children Under Five Years of Age



Sources: ACC/SCN, *Update on the Nutrition Situation: Recent Trends in Nutrition in 33 Countries*. United Nations: 1989.

Food prices in urban areas are high for grains and low for high fat, ready-made foods, making nutritious eating expensive. Because there is a greater disparity between food prices and average income in urban areas than rural areas, the urban population may be more vulnerable to nutritional problems, particularly if food prices or incomes change adversely.

In the rural areas and especially in the agricultural sector, the most vulnerable groups include landless laborers and marginal farming households (owning less than one-tenth of one hectare). Fifty-five percent, on average, were underfed in 1978 (eating 85 percent or less of their calorie requirements). Among households with 5 hectares or more, 21 percent were underfed.

Rural poverty and hunger are directly related to patterns of land ownership. The 1983 Agricultural Census reported that 69 percent of farm households owned farms of less than 1 hectare, making up only 28 percent of the total cultivated land, while 6 percent owned more than 3 hectares (28 percent of the total operated land).

Especially vulnerable are the 27 percent who own less than one quarter of a hectare (4 percent of the land). Comparisons of the 1973 and 1983 Agricultural Census show a trend in decreasing farm sizes at the lower end of the distribution, and the gradual elimination of marginal farmers (less than one-tenth of a hectare).

On the small and densely populated islands of Java and Bali, practically all arable land has been cultivated and farming is dominated by small-scale households. Generally, a minimum of half a hectare is considered necessary to sustain an average-sized household of five in Java. In 1983, 62 percent of farming households did not meet this criterion. Small farmers in need of cash often sell the rice intended for their own consumption, or rent out or even mortgage their land, leaving them either without control of their land or landless.

Available data reveal a trend toward landlessness, particularly in Java. A 1983 survey showed that open landlessness in Java (excluding tenants and sharecroppers) was about 40 percent. When comparing surveys during the past two decades, the incidence of landlessness has had an upward trend.

In an effort to deal with the problems of population growth and landlessness in Java and Bali, the government has sponsored a resettlement program known as transmigration. The government normally transports migrants (usually poor, rural landless laborers) to a less populated outer island and provides them with land, housing and subsistence supplies for the first year. This program has been much criticized by environmentalists because it contributes to the destruction of tropical rainforests.

Surveys of migrants suggest that, while their situation is better than in their regions of origin, their net incomes are not much above poverty level. Other surveys show that average incomes for transmigrants are lower than incomes of rural families in Java and significantly lower than those of the receiving provinces. In 1985, about 20 percent of transmigrant households surveyed were living below subsistence levels, compared to 15 percent in Java and only 4 percent in the receiving provinces.

Agriculture is the single most important source of income and employment, employing about 57 percent of the labor force. Average wage rates in the rural sector are among the lowest in Asia, particularly in Java and Bali.

Although official data show a slight upward trend in daily wages, the number of working hours a day has increased by one or two hours as well. Although official unemployment figures are low (around 2 percent), underemployment is high. Underemployment, defined as those who worked 35 hours or less a week, affected 49 percent of females and 29 percent of males in 1980.

In 1975, Indonesia invaded the former Portuguese colony of East Timor. Since then, the Indonesian government has restricted access to the island, and information about conditions on the island is limited. However, there have been reports of serious food crises in East Timor, particularly in the few years after the invasion. In 1979, Indonesia's Foreign Minister acknowledged that the food situation in East Timor might be worse than the famines in Biafra or Cambodia. Starvation took the lives of many Timorese. Although there is no current information about food security in East Timor, Amnesty International as well as other human rights groups indicate that East Timor continues to be an area of gross human rights abuses.

CASE STUDY

Bangladesh–Vulnerability to Famine

Bangladesh is a small country, approximately the size of Iowa. Its population of 110 million is largely Moslem, with scattered tribal groups living in the hill regions away from the coast. Bangladesh's location on the delta of the historic Ganges-Brahmaputra-Meghna river systems graces it with rich alluvial agricultural land, but makes it vulnerable to annual floods. Agriculture dominates the economy, absorbing more than three-fourths of the labor force and contributing more than 55 percent of the country's economic wealth. Bangladesh's population density is among the highest in the world. With few industrial and non-agricultural jobs available, population pressure on agricultural land is acute.

Grim portrayals of Bangladesh as a country of hunger and starvation continue. It is the poorest country in Asia. More than 60 percent of rural households are landless. Only 30 percent of the population have access to primary health care. In the late 1980s, an estimated 70 percent of the population did not eat enough to satisfy minimum nutritional requirements. Eighty percent of all children under 12 suffer from malnutrition, and 75 percent of malnourished children who survive suffer from permanent stunting of their growth. The majority of the population, already vulnerable to hunger, have been devastated by the periodic floods and famines that have struck the country.

The position of women in Bangladesh society continues to make them especially at risk of hunger. Female children are often regarded as a liability because upon marriage they will require dowry and will leave the home, while sons will remain on the family land and take care of their parents. Some estimate that son preference is so strong it adds an average of 2 or 3 extra children to each family in order to guarantee one surviving son. Other indicators of gender discrimination are seen in a child mortality rate (CMR) that is 30 percent higher for girls than boys, and in the fact that 70 percent of all pregnant and nursing women are anemic and malnourished. For every 100,000 live births, 600 women die, giving Bangladesh one of the highest maternal mortality rates (MMRs) in the world.

The persistence of hunger in Bangladesh cannot be explained merely by reference to chronic poverty or the fateful result of natural disasters. A combination of landlessness, population growth, indebtedness, lack of employment, high rice prices, and lack of access to credit and farm inputs contribute to vulnerability to hunger.

Land in Bangladesh is a scarce commodity and is unevenly distributed. About 2.5 percent of households own more than 22 percent of all cultivated land. In 1984 it was estimated that the poorest 70 percent of all cultivators owned only 29 percent of the farm land, while the richest 5 percent owned 26 percent of the land. At the same time, the functionally landless (who own less than 0.2 hectares) make up 60 percent of the total population. These people find employment either as wage laborers or as tenant farmers.

Sri Lanka

For more than 40 years, Sri Lanka has invested heavily in social welfare programs, with unusual results. Infant and child mortality rates are low, at an estimated 28 and 36 per 1,000 live births, respectively, and life expectancy is 70 years. However, these advances are accompanied by other disturbing statistics: More than 38 percent of children between 3 and 36 months (the data excludes the Northern and Eastern provinces where a civil war has occurred) are underweight, and one quarter of households live in poverty.

A history of government intervention through various social welfare programs has alleviated some of the worst features of poverty. In the 1960s and 1970s, there were greater efforts to undertake these programs, and despite low per capita income at U.S. $400 and modest economic growth, the achievements were significant.

Deteriorating prices on the world market for Sri Lanka's main export commodity (tea) pushed the country into sluggish and uneven growth. In an effort to reduce

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Landless and small holders are especially vulnerable to hunger because they must purchase rice (the staple food) on the market and often at high prices. The average rural household in Bangladesh spends more than 80 percent of its income on food. Because so many people cannot produce enough food themselves, they are vulnerable to fluctuations in the market price of rice.

Those with small landholdings or no land are also vulnerable to hunger because they lack access to low-interest credit. Low-interest credit is only granted to those who own a sizable amount of land as collateral. Smallholders must borrow from informal money lenders who can charge interest rates as high as 150 percent and often take possession of land as payment if farmers cannot repay the loan. In an average year, more than half of all land sales are from farmers who own less than half a hectare of land.

Landlessness, indebtedness and unemployment greatly increased under the agricultural land policies of the British colonial era. It was also during this time that improved health care resulted in rapid population growth. As the colonial period came to a close, the impoverished population experienced one of the most severe famines in the country's history. In 1943, more than three million people died of hunger. Colonial authorities mistakenly assumed that the reason for the famine was a rice shortage because of crop failure, but recent evidence points to no significant drop in rice supplies. Instead, the famine's victims were people whose livelihoods had been destroyed directly and indirectly because of a flood and who had exhausted their assets: Millions had suddenly become too poor to buy food. The government's response to the crisis was late, misguided, and wholly inadequate.

> While some progress has been made in alleviating the more devastating consequences of floods, the majority of Bangladeshi people will continue to be vulnerable to hunger in the 1990s.

British rule ended in 1947, leaving behind an agreement that Bangladesh (formerly East Pakistan) would be joined with West Pakistan, both being Moslem regions. The new government pursued a program of urban-industrial development which favored the region of West Pakistan while leaving Bangladesh relatively poorer. Agricultural productivity stagnated and widening disparities in income began to appear.

In the 1960s, the politically volatile situation encouraged the government to promote the adoption of technological packages associated with the Green Revolution to improve conditions in rural areas. Currently, one fourth of cultivated land is devoted to the use of high yielding varieties (HYVs) of rice. While the potential increases in productivity from HYVs may be great, in practice most small farmers borrow money at the beginning of the season to pay for the new inputs and must begin repayments before the harvest. Often, because they have so little cash, farmers stop using or reduce their application of fertilizer during the season. HYV rice, however, is very sensitive to proper fertilization, and farmers' yields are likely to suffer. Farmers are often forced to sell part of their land to repay loans. The Green Revolution, therefore, has largely benefited farmers who own enough land to gain access to cheaper credit, or farmers who already have access to

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the fiscal burdens of subsidies and encourage rapid growth, a new government in 1977, arguing that the previous government's subsidies contributed to slow growth, initiated policy reforms that were a significant departure from those of the past. Although free health and education services were kept intact, the food subsidy was replaced by a food stamp program and beneficiaries were reduced. Because food stamps were issued with fixed cash value, their purchasing power declined as inflation increased. As economic conditions contracted, especially affecting lower income people, widespread civil strife occurred throughout the 1980s. Civil strife continues today, further distorting government spending priorities.

The trends in the nutrition and well-being of Sri Lankans in the post-1977 period have been mixed. Per capita incomes have grown significantly, but income distribution has worsened; the infant mortality rate (IMR) has continued to decline, but undernutrition levels remain high and may have deteriorated among poorer groups.

Of children between three and 36 months in 1987, 38 percent were underweight. Almost 13 percent suffered from wasting and nearly 28 percent were stunted. Wasting

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irrigation and enough resources to buy the fertilizer themselves.

As Green Revolution technologies took hold, farmers began to hire seasonal wage laborers for the extra work involved in planting and weeding. Today seasonal employment is important for many poor people, but unemployment rates average 42 percent for rural workers during the off-season. Landless wage laborers, and especially female laborers who receive the lowest cash earning of any group, are exceptionally vulnerable to hunger. Poor people, generally, are exposed to disease and unsanitary conditions, and they have reduced resistance to infection and little or no access to health care. This greater vulnerability to sickness, if it prevents work, will also lead to greater hunger and undernutrition.

Despite the introduction of Green Revolution technologies in the 1960s, Bangladesh experienced a widening gap between food grain availability and consumption. In an effort to help meet shortfalls, the United States began providing food aid. In 1969 and 1970, grain imports reached 1.5 million tons, or over 12 percent of domestic production for the year. From 1974 on, these rations were sold by the government, a decision which favored the urban middle class; most rural people were entirely at the mercy of the market for the satisfaction of their daily needs.

Increasing landlessness, debt and dependence on foreign food aid set the stage for vulnerability to famine. This occurred in 1974, following Bangladesh's bloody civil war which resulted in its independence from West Pakistan. Floods followed hard on the heels of the war and led many to attribute the ensuing famine to natural causes. However, supplies of rice in Bangladesh did not decrease in 1974. As happened thirty years earlier, those who had lost their livelihood because of the floods could not buy food but received very little assistance. To make matters worse, the world was in the grip of a global food crisis which had started in 1972. Grain stocks in all of the major grain exporting countries had reached an alarming low and prices skyrocketed. The world market price for both wheat and rice tripled between 1972 and January 1974. Rice prices in Bangladesh were no exception.

At such high prices, food aid, too, became more costly and less available. Bangladesh had become chronically dependent on food assistance, largely from the United States. Then, precisely at the time when the threat of famine was greatest, the United States curbed food assistance in accordance with a U.S. law prohibiting food aid to countries that traded with Cuba. For hungry people, the results were devastating. The official death figure due to famine was estimated at 26,000; other estimates were much higher.

Since the 1974 famine, the government has tried to provide the kinds of infrastructure and services required to support a transformation of the agricultural sector. Land under irrigation has increased and electricity has come to many new villages. Acreage under rice grew from 10 million hectares in the mid-1960s to more than 12 million hectares in 1984, and average yields have increased.

Despite these advances, vulnerability to hunger among poor people does not show signs of diminishing and in some areas it seems to have increased. Per capita income has virtually stagnated, while per capita availability of grains has not kept pace with population growth. Landholdings have decreased in size and become more fragmented through inheritance. Furthermore, landlessness has increased. Average farm size shrunk from 1.4 hectares in 1960 to 1 hectare in 1982. The number of landless households has been growing by 4.5 percent each year; and in 1978 alone, 800,000 rural was particularly significant during the weaning period (6-24 months). The prevalence of wasting increased by 63 percent between 1975 and 1982.

Pregnant women are especially vulnerable to undernutrition. Of the pregnant population, 10 percent consume seriously below their caloric requirements. Low birthweights, which reflect the nutritional status of the mother, affected 28 percent of babies born in 1987. The poor nutritional status of women can be attributed in part to the practice of serving males in the household first, with larger servings and better quality food.

Agricultural workers in particular are extremely poor and highly vulnerable to hunger. About half the labor force is employed in agriculture. Agricultural workers can be divided into two groups: the estate sector—those who work on tea, rubber or coconut plantations, and the rural sector—those who work in other areas of agriculture and produce food primarily (though not exclusively) for domestic consumption.

For the estate sector, death rates and infant mortality

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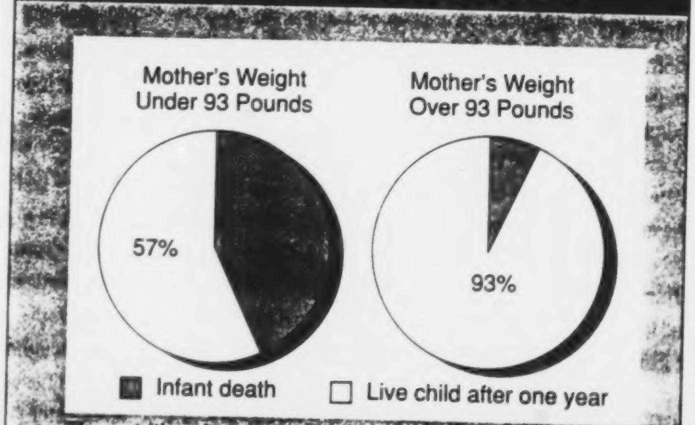
households lost their homesteads, most less than half a hectare in size.

Government expenditures on social welfare programs are meager. The World Bank suggests that Bangladesh's expenditures for human needs are "among the lowest in the world and well under half the estimated minimum expenditures required to fulfill the most basic of human needs." Military expenditures grew 400 percent between 1973 and 1985, draining resources that could be available for social programs. In the face of social welfare cuts by the government, nutritionally-related diseases have shown signs of increasing. Goiter in pregnant and lactating women increased from 12 percent in 1964 to 31 percent in 1975. Anemia affected about 75 percent of 5- to 14-year-old children in both 1975 and 1982.

Bangladesh has also suffered in recent decades due to its position in the international economic community. Jute and jute goods, the country's primary agricultural export crops, have fallen in value on the world market since the 1970s. Other traditional exports such as tea and leather have also fallen in price. New manufacturing initiatives, such as ready-to-wear garments, have been hampered due to import quota restrictions in large foreign markets. Bangladesh's foreign debt has risen to U.S. $8 billion in 1988.

Bangladesh: Mother's Nutrition and Pregnancy Outcome



The nutritional status of pregnant women is crucial to the birth and early growth of infants. Data from Bangladesh clearly show the relationship between a woman's weight (an indicator of nutritional status) and birth outcomes.

[illegible] 1987; *The State of World Population*, [illegible]

In 1983, the International Monetary Fund set policy reforms designed to stabilize the economy of Bangladesh and to create a better climate for foreign investment. These "reforms" have included reduced public investment in agriculture, withdrawal of subsidies on food, fertilizer and irrigation, devaluation of the currency, and an emphasis on export expansion through the private sector. A UNCTAD report concludes that the consequences of these policy reforms have included a decline in per capita food availability from 496 grams a day in 1984 to 448 grams in 1988, as well as a decline in per capita income and an increase in unemployment. The program has also failed to attract new or increased investments, and the currency devaluation has made food imports more costly. Poor people have been hardest hit by these developments. A similar analysis on the long-term consequences of foreign aid asserts that only a small percentage of aid has gone to the rural population. The bulk of development

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rates are higher than the overall rate for Sri Lanka. In 1980, the infant mortality rate in the estate sector was 100 per 1,000 live births, while the national average was 50. Children in the estate sector are more vulnerable to wasting and stunting. Of those 3 to 36 months, 60 percent suffer from stunting. Illiteracy is widespread, and poverty has increased since the late 1970s. While the urban and rural sectors increased their per capita monthly food consumption between 1978 and 1982, workers and their families in the estate sector experienced a fall of nearly 9 percent, reflecting the fall in international commodity prices and its impact on local economic conditions.

Anemia is a widespread health problem in Sri Lanka. It affects 38 percent of men, 68 percent of women, 70 percent of primary school girls, and 52 percent of pre-school children. According to one survey, 50 to 60 percent of the labor force in the estate sector suffers from anemia. Goiter is also a problem, affecting 19 percent of the population.

Despite several land reform programs undertaken by the government, cultivable land is still scarce and unevenly distributed and is a factor in the continuing hunger found in the agricultural sector. In 1972, the Sri Lankan govern-

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assistance has gone to support the transportation, energy and industry sectors, and most food aid has been directed to the urban population.

Real wages also dropped between the 1970s and 1980s. The decline is a correlate of rising market prices for rice, the principle consumption item of the rural poor. By 1984, daily wages in agriculture would buy only 3 kilograms of rice compared to 3.5 in 1974. Calorie intake dropped from an average of 2,301 per day in 1964 to about 1,950 in 1982. Given the increasing disparities in land and income, one expects that the situation is much worse for some than the average figures portray. The percentage of incomes falling below the poverty line also increased dramatically: from 44 percent in 1964 to 69 percent in 1979, to 86 percent in the mid-1980s.

In the face of these downward trends, Bangladesh once again experienced the devastating effects of a major flood in 1988, caused in part by unusually heavy monsoon rainfall. There is also mounting evidence that environmental damage in neighboring Nepal and India increased the problem. During the floods, several thousand people died from water-borne diseases and starvation; 35 million people temporarily lost their homes and were forced to live without food or shelter for several days. As with the 1973 flood and famine, food reserves were destroyed, agricultural jobs disappeared and landless workers and small farmers had to go into debt to purchase food. Small and marginal farmers were forced to mortgage land as collateral against loans from private moneylenders, or to sell portions of their land and household goods at "distress-sale" low prices. The concentration of land and the progressive pauperization of already poor people were accelerated in the aftermath of the floods.

The government's response to the 1988 floods gives some signs of hope that Bangladesh is more able to handle periods of crisis today than a decade ago. The Food and Relief Ministries function more effectively than they did earlier. Bangladesh now has a foodgrain monitoring system, and the government is more committed to stabilizing grain prices. Rice production in 1989 was substantially higher than the previous two years. Nevertheless, many Bangladeshis still lack a safety net with which to survive such natural disasters.

One step toward improving the lives of Bangladesh's poor people is the growth of the Grameen Bank. Founded in 1976, the bank lends only to landless people and 82 percent of its borrowers are women. Borrowers are loaned small amounts of "venture capital" at low interest for enterprises such as rice-husking, weaving or the production and sale of vegetables, eggs and milk. In 1989 the bank had half a million borrowers and was operative in 14 percent of Bangladesh's 68,000 rural communities. The bank has a 98 percent repayment rate and has supported thousands of families and female-headed households to improve their nutrition and living conditions. Futher assessment will be needed over time to confirm that income gains to households have been significant and lasting.

Hunger persists in Bangladesh due to a variety of factors: low average income, severe population pressure on the land, recurrent natural disasters, external dependence on food assistance, and internal inequalities which limit the ability of poor people to produce enough food to feed themselves and stave off the effects of natural disasters. While some progress has been made in alleviating the more devastating consequences of floods, the majority of Bangladeshi people will continue to be vulnerable to hunger in the 1990s. ■

ment introduced a land reform law. The majority of the land taken was in the estate sector; this land passed from private to public ownership, but remained as estates. Less than 10 percent of the 155,000 hectares acquired was distributed to the landless. These people received small units of marginal quality land (0.1 to 0.2 hectares). The result was that large estates remained intact under government ownership, and the small amount of land divided and distributed was insufficient to generate enough income for people who acquired the tiny plots. Estate workers continued as non-owner employees.

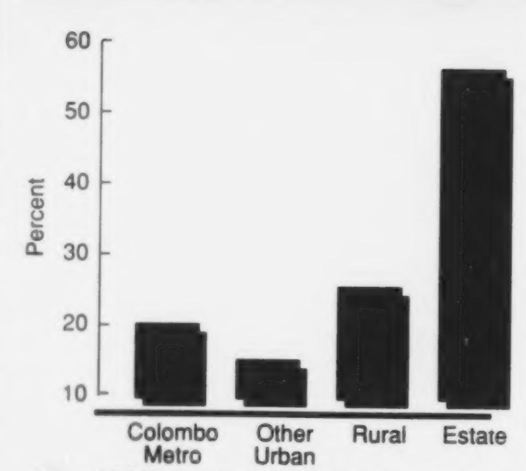
Due to a variety of economic factors, estate agriculture in Sri Lanka has stagnated since the 1970s. A large supply of labor within the estate sector has enabled the plantations to keep wages lower than elsewhere in the economy. In need of additional income, women and children also enter the workforce, working longer hours than men for considerably lower wages.

The situation of small landowners who grow tea, rubber and coconuts with the aid of family labor is not much better. Smallholders account for 60 percent of coconut lands, 48 percent of rubber lands, and 22 percent of tea lands. The average smallholder owns half a hectare or less, too small to sustain an average-sized family of five. To support themselves, other sources of income are needed. Most rubber and tea smallholdings are found in the densely populated Wet Zone in the southwestern third of the island, where land is scarce and alternative employment limited.

The rural sector has fared better. Production has increased and national self-sufficiency in rice has almost been achieved. The main problem rural farmers face is the lack of land. Landholdings are becoming progressively smaller, most critically in the Wet Zone, and landlessness is widespread. Landless workers face high unemployment rates and low wages, estimated in 1984 to be less than U.S. $1 a day. Employment is seasonal or temporary, adding to the worker's problems.

The latest poverty alleviation government program, known as the Janasaviya program, aims to improve the conditions of former food stamp beneficiaries by distributing monthly cash payments during a period of two years. Part of this disbursement is to be used for consumption and part saved to enable households to decrease their dependence upon state welfare programs. The main weakness of the program is its cost: an estimated U.S. $3.5 billion within two years, which is approximately 25 percent of the country's annual gross domestic product (GDP)—far beyond the country's financial capability. It remains to be seen if the government will be able to afford the program—or whether the program itself will help solve the pressing issue of poverty and hunger in Sri Lanka.

Sri Lanka: Percentage of Stunting in Children
By Region, 1986



Source: ACC/SCN, *Update on the Nutrition Situation: Recent Trends in Nutrition in 33 Countries*. United Nations: 1989.

India

Once considered symbolic of the Malthusian conflict between too little food for too many people, India has shown dramatic improvements in its food supply situation during the past three decades. Improved welfare and famine relief programs and food grain reserves have allowed India to avoid periodic famines which took hundreds of thousands of lives in the first two-thirds of this century. India's famine relief programs have been offered as a model for some African countries.

The achievements in food production since the 1960s have largely been the result of Green Revolution technolo-

> "Mothers are not dropped from heaven, they are born as undervalued, neglected girls and grow as exploited, uneducated children."
> —*Dr. Harcharan Singh of the Health and Family Welfare Planning Commission*

gies, including improved varieties of wheat and rice, fertilizers and pesticides. Rice production alone increased from almost 63 million tons in 1976 to more than 96 million tons in 1985. India now boasts self-sufficiency and exports food grains. Despite these impressive gains nationwide, the Green Revolution technology has favored wealthier regions with access to irrigation, such as Punjab in the northwest. This further contributes to increased regional disparities. Indeed, hunger and poverty continue to affect the lives of as much as 40 percent of India's population. With a population approaching more than 1 billion at the end of the century, India harbors the largest absolute number of undernourished people of any country in the world.

There is disagreement over the various methods of measuring poverty and hunger in India, as well as those used by the government in determining its official statistics. It is clear, however, that since the mid-1950s, the percentage of people in poverty have been diminishing. Yet it is also clear that despite recent progress, large proportions of India's population continue to be subject to undernutrition, ill-health and short life expectancy.

Malnutrition is high among children, especially those under three and those from scheduled tribes and castes (groups which have historically suffered from discrimination-based economic and social deprivation and are identified in the constitution as needing special privileges to overcome these barriers). In 1982, 41 percent of under fives were moderately or severely underweight. In 1983, 51 percent of all children under five showed signs of stunting, the most vulnerable age group being three- to five-year olds (approximately 64 percent); 21 percent suffered from wasting.

India is one of the few countries where males outnumber females. The overall mortality rate in India is higher for women; maternal mortality accounted for about 3 percent of all female deaths in India in 1986, and 13 percent of deaths among rural women between the ages of 15 and 45. Low birthweights affected 30 percent of infants in the mid-1980s. The higher female nutritional disadvantage seems to be more prevalent in northern states. Studies in southern states such as Andhra Pradesh and Tamil Nadu have found no evidence of a systematic nutritional bias against women.

Discrimination in favor of males in the allocation of food and health care is the main reason for the poor nutritional status of women. Female children under four suffer higher death rates than male children (43 vs. 39.5, respectively). Nutrient intake studies in 1979 show that 80 percent of 13- to 18-year old girls consumed less than the recommended amount of calories for their age groups, as did 70 percent of adult women. Among women 20 to 24 years of age, as many as 23 percent were stunted and 29 percent were underweight. Women of child-bearing age who are stunted or underweight tend to give birth to children who are also underweight, thereby continuing the problems of hunger.

There are other consequences of nutritional deprivation as well. Anemia affects more than 60 percent of Indian women and affects their work productivity and childbearing. An estimated 8 percent of children under six suffer from eye disorders resulting from vitamin A deficiency. Goiter affects 7 percent of the population, and 150 million people are at risk.

Several important trends in the hunger picture are emerging: the growing regional disparity in poverty and hunger; changes in land holding patterns; and the growing proportion of landless, wage- dependent households among the poor.

Hunger and malnutrition are most heavily concentrated in the poorest regions of India, located in the eastern and central states. In the eastern state of Bihar alone, the number of poor people increased by a third between 1970 and 1988. A 1983 sample survey in Bihar showed that nearly half the children five and under suffer nutritional deficiencies, including approximately 78 percent of the children between six and 18 months of age. While India experienced rapid agricultural output resulting from the Green Revolution, poverty and hunger became increasingly concentrated in these states, comprising approximately 412 million people. A fall in the incidence of poverty in the south has left more than three-fifths of poor people living in the central and eastern states.

Seventy-three percent of India's population live in rural areas; more than half of all rural people live in poverty. Due to increasing population, access to sufficient land to produce food and cash crops is a key determinant for rural household food security. Those who are landless or do not have enough land to sustain themselves are among the poorest in the country and are the most vulnerable to hunger.

Although there has been an increase in the number of farms, the size of holdings has generally gotten smaller due to the subdivision of holdings among family members, market transactions and land reforms. Between 1970 and 1980 the number of small holdings of 1 hectare or less grew from 36 million to 50 million while the number of large holdings of 10 hectares or more fell from nearly 3 million to nearly 2 million. By 1990, there are about 60 million farms of less than 1 hectare and possibly not sufficient to produce at a subsistence level.

These trends pose important concerns about vulnerability to hunger. Although land ownership enables families to achieve a modicum of security, many small farmers have to supplement farm earnings with wage labor, often at low wages. Furthermore, the increase in the number of privately-held plots has reduced common property areas. These community-owned lands (pastures, forests and woodlots) are often important sources of income and food for the poor and landless, and the loss of these areas places further pressures on people vulnerable to hunger.

The third component of the hunger picture in India is the large and increasing number of rural families (notably landless households) dependent on wage labor, particularly casual (or temporary) labor. Wage-dependent households face grave poverty, desperately low consumption levels, and limited access to anti-poverty programs. In 1983, casual wage laborers comprised 73 percent of all wage laborers.

There are wide disparities in wages across India. While wages have stagnated in many areas, they have done so at different levels. Wage rates for women and members of scheduled tribes and castes are lower than for men, even for comparable jobs. Unemployment rates were higher for households dependent upon wage labor and low-income families. Female workers are also underemployed more than male workers.

The urban poor face difficulties similar to their rural landless counterparts. While the proportion of urban citizens below the poverty line has decreased in recent years, the absolute number of urban poor have increased throughout the last two decades. In 1988, urban areas accounted for 22 percent of the total number of estimated poor, whereas in 1970 this share was 17 percent. Poverty and hunger are prevalent among urban casual wage laborers. Casual workers are not protected by minimum wage legislation and their real wages have fallen in recent years. Furthermore, there are wide disparities in the incomes of casual workers and protected workers.

Alleviating poverty and hunger continues to be a primary objective in India. Central and state governments as well as private and church non-governmental organizations have implemented social programs to address these issues. The prospects for overcoming these problems in the next decade are not bright. However, the experience of the state of Kerala demonstrates the potential for changing the hunger landscape in this large and complex country.

Kerala, located in southern India, is very poor, but it has used available resources to achieve higher levels of health, nutrition and education for its people than any other state of India or than most developing countries. For example, the infant mortality rate (IMR) in Kerala in 1988 was 27, compared to 86 for India as a whole, and almost three-fourths of Keralans (including women) are literate.

Programs for sanitation, improved housing, immunization, and free or low-cost health care throughout the state all contribute to relatively good health and high life expectancy for Keralans. Many government functions have been decentralized to the local level. Nutrition has been protected by public food distribution since the First World War—currently by school lunch, daily meals for mothers and infants, and ration shops for low-cost rice, the staple food. Kerala imports most of the rice it eats, and export crops dominate agriculture, but land reforms in the late 1960s by elected governments responsive to peasant protests greatly reduced landlessness and inequity while increasing economic opportunity for many Keralans.

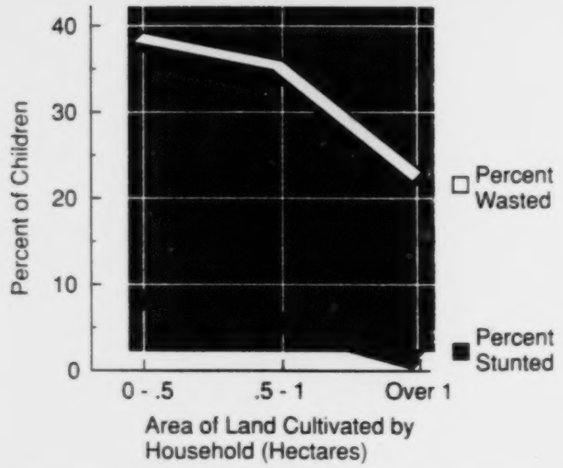
Serious problems remain in Kerala —at least 25 percent unemployment, low per capita income, and stagnant agriculture—but this Indian state has shown that government policies can serve hungry people even when overall wealth is not great.

Nepal

Hunger in Nepal is among the most extensive reported outside of periods of natural disasters, and it occurs throughout the country. Roughly 30 percent of the population of Nepal does not have enough income to purchase the minimum calorie requirement. This widespread hunger is due in part to low agricultural production, which has been unable to keep pace with the rapid population growth. Nepal stands as one of the poorest countries in the world, with an annual per capita income of U.S. $160. In the mid-1980s, about 60 percent of the population lived in poverty.

Children in Nepal are likely to be thin, slow to gain weight, and become stunted during the first two years of life. Nepal has high infant and under five mortality rates, 118 and 178 per 1,000 live births respectively. More than half the children under six in rural areas are stunted, and nearly 7 percent are wasted. Children from rural households that cultivate less than 1 hectare are particularly vulnerable to undernutrition.

Nepal: Percent of Malnutrition in Children 0-8 Years Old by Household Farm Size



Access to land is critical in household food production and consumption. In Nepal, farm size and the nutritional status of children are directly related.

Source: Kosi Hill Area Rural Development Programme/Save the Children Fund Survey, 1982, in Food and Agriculture Organization, *Nepal: Assessment of the Food and Agriculture Situation*. 1987

Females make up another group vulnerable to hunger. Studies show that girls are more likely to be wasted than boys (21 percent vs. 14 percent) and show both more stunting (37 percent vs. 25 percent) and more severe stunting. Mortality rates are markedly higher at all ages for females than for males, and this gap is widening. The maternal mortality rate (MMR) in the mid-1980s was a shocking 830 per 100,000 live births.

Nepal can be divided into three distinct regions: the mountains of the Himalayas bordering Tibet to the north; the middle Hill region, and the Terai plains bordering India in the south. Mortality rates are higher in the Hill and Mountain regions than in the Terai plains. In some poorer sections of the Hill and Mountain regions, infant mortality rates (IMRs) reach 180 per 1,000 live births and more, and child mortality rates (CMR) exceed 300 per 1,000 live births.

The latest national survey was carried out in 1975. It indicated that 70 percent of children under five were underweight. Sixty-nine percent were stunted, and 14 percent were wasted. Wasting is higher in the Terai region while stunting is more prevalent in the Hill and Mountain regions. Local surveys carried out since 1975 suggest that the nutritional status of children has not improved and may have declined.

Goiter affects from 25 to 90 percent of the people, depending upon the region. A 1982 study showed that goiter affected 61 percent of people in the Mountain area, 55 percent of the Hill area, and 60 percent of the mid-Terai region. Vitamin A deficiency is especially prevalent in the Terai.

The regional differences in the extent of hunger is explained by the physical environment of each. Only 30 percent of Nepal's total land area is cultivable. The Terai is the major agricultural production area due to its conducive climate and terrain. The Hill region is less fertile, and the Mountain area, characterized by steep slopes and narrow valleys, is mainly suitable for livestock. At the same time, there is an uneven balance of arable land and population: The Hill and Mountain regions contain about 60 percent of the population but only 30 percent of the total arable land, while the Terai region holds about 40 percent of the population yet 70 percent of the arable land, and provides more than 60 percent of the country's food production.

Because of the rugged terrain of the Hill and Mountain regions and the lack of efficient roads, transportation of food and other products to and from the Hill and Mountain regions is difficult. In some areas, the standard modes of transportation are porters and pack animals, making transportation costs, and thus the costs of many basic goods, higher than elsewhere in Nepal.

Lack of access to productive agricultural land is one factor contributing to hunger and poverty in Nepal. Land distribution is highly inequitable. Although the government initiated a land reform program in 1964, little land has been redistributed to poor farmers. According to a 1982 survey, small and marginal-sized farming households make up 64 percent of the total farms but possess only 34 percent of the total cultivated land. Of the total small and marginal farms, almost one-third own less than 1 hectare of land, accounting for about 8 percent of the total cultivated land. In the Hill region, 75 percent of farm families have less than 1 hectare of land, and 50 percent have less than half a hectare. In the Terai region, 35 percent of the families are landless and 50 percent have holdings of less than 1 hectare. Landless and semi-landless farmers make up about half the total population.

The chronic food insecurity of the landless and near-landless rural households is a result of their inability to acquire enough food either by producing it or buying it. Incomes are low in Nepal and a high proportion of the small farmers' wages are spent on food. Most small farmers seek to supplement their income from off-farm employment. However, underemployment is widespread, measured at 64 percent, and rural unemployment is measured at 6 percent. Migration is a common response of households confronted with food scarcity. Since 1971, more than one million people have migrated from the Hill and Mountain regions to the Terai which produces food surpluses. However, because of low wage rates, many Terai laborers cannot afford to buy food, and surpluses are usually transported to the Hill and Mountain regions or to India.

In March 1989, India imposed a trade embargo against Nepal following a trade and transit dispute and closed the borders between the two countries. This had serious repercussions on Nepal, which, being landlocked, relies on India as a supplier of goods as well as a market for its surplus products. Consequently, Nepal found itself short of food, fuels, medicines and other commodities. Hoarding brought a price increase of 10 to 20 percent in the first month of the dispute. Degradation of the environment increased during the crisis as people have turned more to fuel wood as a substitute for kerosene. Early in 1990, large-scale popular demonstrations brought into power a new government that renewed negotiations with India. The embargo was lifted during the summer.

Pakistan

Though Pakistan produces enough food to adequately feed its people, hunger persists because of inequalities in land, income and food distribution. Since the early 1960s, Pakistan has experienced an annual economic growth of about 6 percent and a significant increase in national food production. Yet, more than half the children under five are underweight. While nutritional data are often outdated or insufficient, it is clear that poor nutrition and poverty are widespread in Pakistan in both rural and urban areas.

In Pakistan even more than in India and other south Asian nations, females face greater health and nutritional problems than males. Female mortality rates are significantly higher than that for males, particularly during the reproductive ages of 15 to 44. Infant mortality rates (IMRs) are 20 percent higher for girls than for boys. The higher IMR for females can be attributed to the practice of favoring males with food and health care. The maternal mortality rate (MMR) was 500 per 100,000 live births in the 1980s. Birth records reveal that between 25 and 30 percent of infants born into low socioeconomic groups are underweight at birth compared to only 10 percent of infants born to well-off families.

Vulnerability to health and nutritional problems persist into childhood. The overall IMR in Pakistan is an estimated 98 per 1,000 live births in 1990 and the estimated under five mortality rate is 147 per 1,000 live births. Between 1985 and 1987, 52 percent of children under five were

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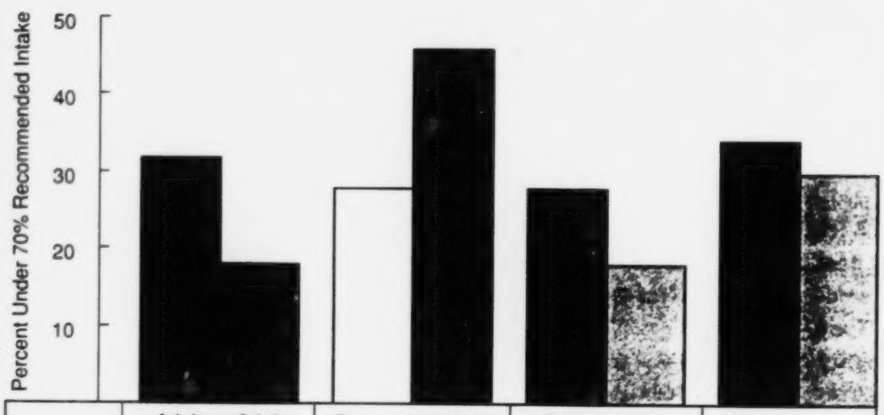
"The poorest are those who have lost their land and now work for others. There are so many landless people here that the landowners can take a larger and larger percentage of their crop. Only a few years ago, 50/50 was the usual arrangement. Now, some offer the landowner 60, 70 even 80 percent of their harvest if they can use his land. Many also have hopeless debts that they will never be able to repay."
—Narayan Maharjan, a supervisor with Palpa Community Health Programme (CHP) in Nepal

Pakistan: Calorie Intake by Age and Sex, 1985-87



	Adult Male	Adult Female	Pregnant	Lactating	Boys 6-15	Girls 6-15	Boys 0-5	Girls 0-5
Average Intake	2522	2237	2165	2298	1910	1814	1166	1169
Recom-mended Intake	2900	2100	2500	3100	2200	2100	1300	1300

Source: Government of Pakistan, 1988, cited in Etisham Ahmad and Stephen Ludlow, *Poverty Inequality and Growth in Pakistan*. World Bank.

underweight. About 15 percent showed signs of wasting and 46 percent showed signs of stunting.

Widespread poverty in the urban areas of Pakistan contributes to the problems of hunger. UNICEF reports that 32 percent of the urban population lives below the poverty level. One survey revealed that 7 percent of urban children aged five and under were wasted, while 30 percent showed signs of stunting. Although somewhat dated, a 1975 survey among primary school children in Lahore showed that 61 percent of children from low- and middle-income families weighed well below the standard weight for their age, while none of the children from the high-income families fell into this category.

Consequences of nutritional deprivation include vitamin A deficiency, which affects a large portion of the population. The prevalence of vitamin A deficiency is higher in women than in men, and higher in rural than in urban areas. Goiter is a problem in mountainous areas where the soil lacks iodine, particularly in the regions of Gilgit and Chitral. In some areas, the prevalence of goiter is as high as 99 percent among females.

Hunger and poverty in Pakistan are directly linked to access to land and other resources. Land distribution in Pakistan is the most inequitable in the subcontinent. In 1980, almost three-quarters of the landowners had holdings of less than 5 hectares—accounting for about a third of the agricultural land area—while 8 percent owned more than 10 hectares (and 42 percent of the land area). Among small-scale farmers, 17 percent owned less than 1 hectare and controlled only 1 percent of the total farmland. A United Nations report identified the "unequivocally poor" as the 51 percent who owns 3 hectares or less of land.

Data on the extent of landlessness are very sketchy. One study estimates that more than half of all rural households do not own any land. For more than 40 percent of the rural households, tenancy is the main basis of income. In exchange for use of land and tools, tenant farmers give half their crop to the landlord.

A 1979 report showed that only 37 percent of rural households earned incomes high enough to meet minimum nutritional requirements. Many people therefore seek additional means to supplement their income. One alternative is migration to other areas of Pakistan and to the Middle East to seek employment. In 1984, an estimated 2.5 million Pakistanis, or 10 percent of the labor force, were working in the Middle East. Remittances from these workers are an important source of income for many households.

Hunger is also related to distortions in government spending. Pakistan places a high priority on military expenditures (including a nuclear energy/weapons program), which limits money for programs which would alleviate hunger and poverty. In 1986/87, 30 percent of all government expenditures was allocated to the military, compared to only 1 percent on health. Pakistan is one of the largest recipients of U.S. aid, which has reinforced the government's priorities. Nearly 78 percent of the aid the United States gives to Pakistan (over $3 billion in the 1980s) is either military or security-related.

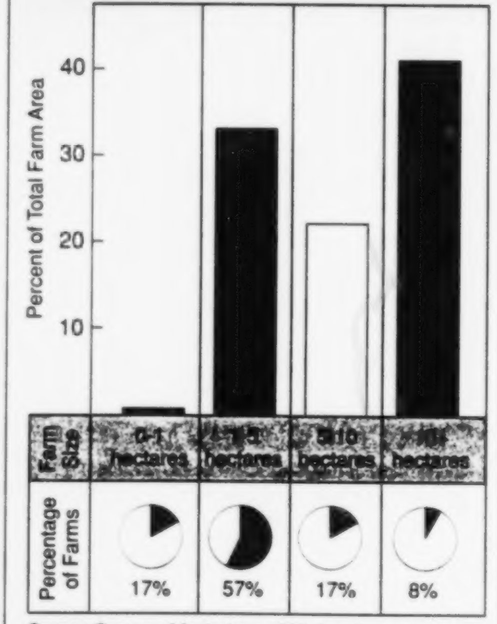
Afghanistan

Afghanistan has been torn by civil war for the past 12 years, beginning with a coup in 1978 led by pro-Soviet military officers. A year later, the Soviet Union invaded the country to establish a government responsive to its direction. The next decade saw widespread resistance to the Soviet occupation. By the time the Soviet Union withdrew its forces in 1989, Afghanistan's economy was seriously damaged, displacing up to 5 million Afghans, and a food crisis threatened a majority of Afghanistan's population. The food crisis continues today, as does warfare between the government and the *mujahedeen* (the non-communist rebels) as they each seek control of the country. Afghan refugees in Pakistan number more than 3 million (partially sustained with U.S. food aid).

Undernutrition among children, which was prevalent before the war, has worsened. In mid-1970s, some 25 percent of one- to three-year olds suffered from undernutrition. An estimated 62 percent of the children in 1986 were undernourished; by 1989, the total was nearly 80 percent, according to hospital authorities in Kabul, the capital. With the current food crisis, more than 30,000 children in Kabul alone are vulnerable to illness and death due to undernutrition. In 1990, Afghanistan has among the highest infant and under five mortality rates in the world at an estimated 162 and 298 per 1,000 live births, respectively. It is important to note that these figures are projections and do not fully consider the effects of the civil war on hunger in Afghanistan.

Nursing mothers and pregnant women are also vulnerable to chronic hunger. Before the war, a combination of inadequate maternal health care and discriminatory allocation of household food led to a maternal mortality rate (MMR) of 690 per 100,000 live births in 1975. The situation is likely to have deteriorated over the past decade as food supplies have been disrupted, health clinics destroyed, and trained medical personnel scattered. Low birthweights of infants also indicate poor maternal nutrition. UNICEF reports that 20 percent of infants born had low birthweights.

Pakistan: Distribution of Landholdings By Farm Size, 1980



Source: Census of Agriculture 1980, from International Fund for Agricultural Development, *Agricultural Policy and Rural Poverty in Pakistan*. 1984.

The urban population is another group at risk of hunger. The war has interrupted agricultural production and hindered transportation of food into the cities. This situation is further complicated by a surge in the population of Kabul and other major cities as rural residents have fled the fighting in the countryside. Kabul's population is now estimated to be 2.2 million, almost double the pre-war figure. In Kabul, the 1 million people displaced by the war are poor, usually unemployed, with minimal income and inadequate housing, leaving them vulnerable to inflation, disease and hunger.

The war continues to demand a large amount of money for the military, which might otherwise go into recovery programs. Civil strife has disrupted food production, destroyed irrigation systems, roads and bridges, livestock, housing, schools and clinics, and has forced farmers to flee. Land mines are then planted in many areas, deterring farmers from returning to the land. One report indicates a 50 percent loss in agricultural production since 1980. Agriculture has lost one-third of its farmers, and the total cultivated area has decreased by 30 percent since 1978-79.

Existing farming was hard hit by natural causes in 1989. Locusts and other plant pests damaged crops in the northern provinces of Badghis, Faryab and Herat, reducing cereal production. The production of wheat, Afghanistan's staple crop, fell from 20 percent to 25 percent in April 1989, due to cold weather. The harvest prospects for 1990 are poor, and food supply is critical in the northern parts of the country.

Transportation of food from rural areas to villages and urban areas has been difficult, as roads have been closed or blocked by war activity and/or harsh weather. Even when food does reach the markets, distribution is unequal. Priority is given to members of the military and to the ruling People's Democratic Party; to the rest of the people food distribution is behind by three months.

The prospect of food shortages has encouraged hoarding and has pushed up food prices. Inflation in 1989 was as high as 300 percent and wages lagged far behind the price of essentials. The poorest people in the cities have suffered most due to the lack of bread and other supplies, especially during the harsh winter months.

When the Soviets withdrew their forces in 1989, they left behind military advisors and a large stockpile of arms. Moscow continues to provide military training and supplies to the forces of the regime, while the mujahedeen continue to receive weaponry from the United States and other sources. Throughout 1989, the various parties have tried to promote a negotiated settlement but without progress. Without a settlement, farmers cannot return to their land, herds of livestock needed to work the land will not be rebuilt, relief food will be limited, and national resources will go for military rather than human needs. Therefore, hunger will continue to plague most of the population of Afghanistan until such a settlement is reached.

Turkey

Rapid economic growth was achieved in the 1980s by loosening government controls, encouraging foreign investment, and pursuing an export-oriented strategy. An industrial policy designed to expand exports has taken precedence over improving agricultural production. Yet high growth is not without its problems. Debt servicing and expansive expenditure programs launched by the government have contributed to high inflation—estimated to be between 50 and 60 percent in mid-1990. Unemployment is estimated to be more than 20 percent. Regional disparities have widened as agricultural growth, adversely affected by economic policies, has been slower and more erratic than other sectors. Popular resentment, including a wave of labor unrest, is increasing while the standard of living decreases.

Hunger is not a widespread problem in Turkey, although current economic problems increase the vulnerability of low wage urban and rural workers. In 1982, a survey found that 9 percent of the Turkish population was undernourished (defined as those consuming less than 2,000 calories a day). The deteriorating economic situation of the 1980s may have had adverse effects on the nutrition of vulnerable groups and an estimated 5 million people could be undernourished. A study in the mid-1980s determined that 12 percent of children under five were underweight for their age. A survey in 1982 revealed that 8 percent of people under 18 were stunted, and 26 percent were underweight. A study in the mid-1980s indicated that females are more vulnerable to undernourishment than males.

Agriculture has been largely overlooked by the government during the 1980s. In pursuing anti-inflationary policies, the government has kept agricultural prices low and limited credit and infrastructural investments. Despite some improvements in agricultural technology, yields for most crops have risen only slightly since the mid-1970s. Between 1977 and 1984, the total area of cultivated land decreased. A drought in 1989, the worst in 30 years, was responsible for a 24 percent fall in output from the previous year.

Agriculture employs about half of the total labor force in Turkey. This sector also has a large number of unemployed and underemployed workers. Work for wage laborers is usually seasonal and wages are low. Inflation has further eroded the purchasing power of wage laborers.

Because of the expansion of the industrial sector in the 1980s and the higher wages it offers, there has been a dramatic increase in migration from rural to urban areas.

The growth rate of the urban population has been increasing rapidly, averaging 4 percent in the early 1980s. In terms of unemployment, this growth demanded that between 300,000 and 400,000 additional jobs be created each year. Although some new jobs were created, such a large increase was impossible for Turkey, and unemployment increased during the decade. Furthermore, the export promotion strategy is coupled with a policy of keeping wage incomes low. Thus living standards are low and many urban dwellers are vulnerable to undernutrition.

A large share of migrant workers comes from the eastern provinces, where hunger and poverty are prevalent. The eastern part of Turkey, which is colder and drier, is agriculturally disadvantaged relative to other regions. The ratio of area sown to the total area is lower, the share of high value crops is lower, and yields are lower for virtually every type of crop. Production in the eastern regions accounts for no more than 10 percent of agricultural products.

These disparities are reflected in the average incomes of the regions. In 1985, incomes in the eastern regions ranged between 50 and 80 percent of the average income for the country as a whole. In comparison, incomes for the province of Istanbul and the western region were 150 percent and 100 percent of the national average, respectively. In 1981, 20 percent of the families in the eastern provinces were calorie deficient, compared to 8 percent for the north and west coastal regions and slightly more than 9 percent for the country as a whole.

As Turkey seeks to cope with its debt, high inflation, unemployment and low production, hunger may increase as vulnerable people find food more costly and their incomes more meager.

Yemen Republic

In early 1990, the Yemen Arab Republic (North Yemen) and the People's Democratic Republic of Yemen (South Yemen) merged to form a new country known as the Yemen Republic. The two regions were separated in the mid-19th century when the British wrested control of South Yemen from the Ottoman empire. South Yemen underwent more than a century of colonial rule until winning independence in 1967 and proclaiming itself a Marxist state. North Yemen remained under the control of the Ottoman empire until it ousted them, with Egypt's help, in 1962 and formed a pro-West government. The new country has a total population of about 12 million.

The experiences of the two regions resulted in the development of two very different political and economic cultures, but they share common problems. Both North and South Yemen were poor countries with harsh environments. Food crop yields were low, and both countries had imported food to meet domestic needs.

In both regions, children are particularly vulnerable to hunger. In the mid-1980s, 58 percent of children under five in the north were underweight. The latest survey of the prevalence of stunting and wasting in this region (1979) found that 63 percent of children under five were stunted. A 1983 survey in the south showed that 26 percent of children five-and a-half years old and under were underweight; 34 percent were stunted.

Low birthweights reflect the poor nutritional status of mothers. In 1982-83, 13 percent of babies born in the south had low birthweights. The figure for the north was 9 percent in the early 1980s. Bottle-feeding has gained in popularity over breastfeeding in the country, more so in the southern region. This is due in part to the convenience it offers the mother in allowing her to leave the baby in another person's care while she works. However, the formula is often over-diluted and contaminated water is often used, causing the child to have nutritional and other health problems.

Agriculture in the country is seriously hindered by the environment. In the south, 0.7 percent of the total land surface is cultivable, the rest being sparse pasture land. Because two-thirds of the land is dependent upon rainfall which is light in most areas, only 0.3 percent of the land is actually cultivated, and agricultural yields are low.

While agricultural conditions in the northern region are harsh as well, they are more favorable than the southern region and other countries in the Arabian Peninsula. The high mountains of the north attract clouds and rainfall, and the north also has the most fertile soil of the region. However, much of the land in the region lies fallow: only 11 percent is cultivated, while it is estimated that 25 to 50 percent of the land is arable.

Despite harsh conditions, agriculture is the main source of livelihood in the north, employing 69 percent of the labor force. Most landholdings are small: in 1980, 89 percent of the farms were less than 5 hectares in size while the remaining 11 percent covered 57 percent of the cultivated land. In the mountain regions where land is more fertile and intensive terracing is carried out, landholdings rarely exceed 1 hectare.

In 1981, 45 percent of the labor force in the south was employed in agriculture. Although the government has successfully redistributed land through land reform, the large and increasing population in the south, coupled with limited land, results in less than half a hectare for a family of seven. State-controlled cooperatives have been increasing in size and importance since independence. In 1980, more than half the population involved in agriculture were members of a cooperative, and cooperatives contributed 30 percent of agricultural production value. Yet, wages in the agriculture sector are the lowest in the country, due in part to the low prices set by the government on food items.

Internal and international migration play significant roles in the economy of the northern region. Many young men have been attracted to the high wages offered in neighboring oil-rich countries. It is estimated that in 1975, 19 percent of the labor force was employed outside the country. The remittances play an important role both in improving rural incomes and in financing the government's development schemes, since the government indirectly taxes the remittances. Positive as this international migration is to both local and national pocketbooks, the departure of these workers has created a labor shortage in rural areas, and the amount of uncultivated land has increased as land is abandoned. Similarly, urban employment opportunities and wages have attracted rural workers. Urbanization has been rapid: 8 percent per annum between 1970 and 1982, the third highest rate in the world.

A recent trend in agriculture in the north has been the expansion of cash crops—particularly qat, a stimulant similar to tobacco. Qat is a popular cash crop because it is highly drought resistant and does not require much labor. Because the government has restricted the imports of qat from other countries and demand for qat has increased, the returns for producing this crop are higher than for other food and cash crops. Consequently, many farmers are switching production from food to qat, raising concerns that this trend will contribute to the decline of food production.

In 1989, an estimated 1 million tons of wheat and other grains were imported by Yemen, making up approximately 60 percent of the country's food needs. The two Yemens have attempted reunification twice before unsuccessfully. Whatever the outcome of this merger, food imports are likely to remain high.

Jordan

During the 1970s and early 1980s, Jordan's economy shared the prosperity of the Middle East oil boom, as the new wealth of neighboring states flowed into the country. Remittances from Jordanian workers in the Gulf states and massive financial aid from the Gulf states have provided Jordan with up to U.S. $2.5 billion annually. During this time, the government focused expenditures and development programs on the industrial sector, largely neglecting agriculture.

However, with a decline in the prices of oil during the mid-1980s, Jordan, like its oil-rich neighbors, has experienced sharp economic contractions. Inflation has eroded living standards and per capita incomes fell from U.S. $2,000 in 1987 to U.S. $1,200 in 1989. In early 1989, the government turned to the International Monetary Fund (IMF) for assistance. As part of the austerity measures mandated by the IMF, the government announced in 1989 price increases of various consumer goods, further eroding purchasing power and leading to riots in southern Jordan. The lower income households are particularly affected. While the government has allocated some money in the budget to subsidize food for lower income groups, it is unlikely that the small amount can fully offset the effects of the austerity program.

Recent data on hunger in Jordan are lacking. The most recent figure on the prevalence of stunting is from a 1975 survey, which found that 9 percent of one- to two-year olds were affected. While the nutritional status of Jordanians is likely to have improved during the oil boom, the recent decline in the economy raises concerns about the vulnerability of poorer people.

Farmers and rural workers are among the poorest groups in Jordan. Because yields are quite low, many farmers and agricultural laborers are unable to earn enough income to support themselves and their families. This is particularly true of farmers who depend upon rainfall for their crops. Forty percent of food production takes place in this non-irrigated sector, but rainfall is sporadic and yields and incomes are low. Irrigated agriculture is practiced on only 7 percent of the cultivated land and is concentrated in the Jordan Valley, but accounts for about 60 percent of total food production. Both groundwater and surface water supplies are limited, however, and barely meet the country's consumption needs in both agricultural and non-agricultural uses. In the mid-1980s, 17 percent of the rural population lived below the poverty level.

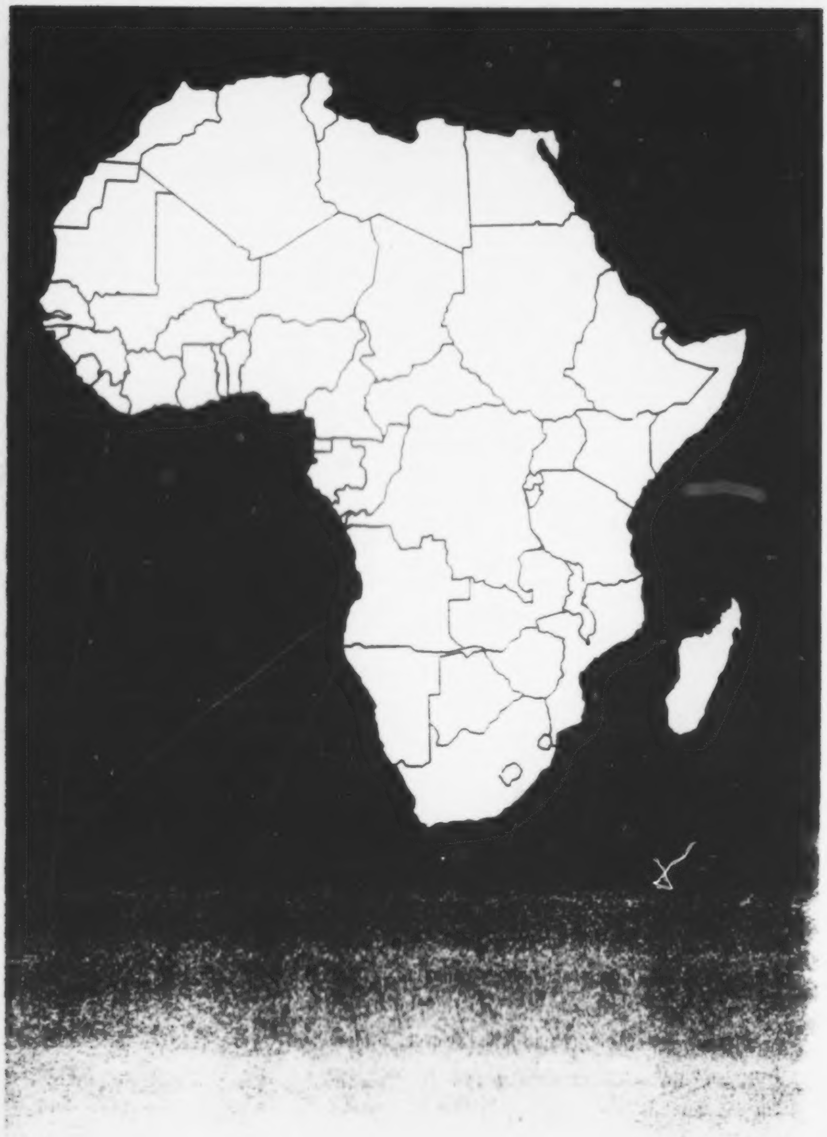
Agriculture has largely been neglected by the government's development programs, the government having relied heavily on food imports. In 1980, Jordan imported more than 50 percent of its food needs. Farmers have also been badly affected by the rising costs of agricultural inputs. In addition, bad weather during 1989 and 1990 seriously hurt production.

Jordan's war with Israel in 1967 resulted in the loss of 48 percent of its population and 26 percent of its arable land when Israel occupied the West Bank. A troubled peace has existed since: Jordan still considers the occupied West Bank as its own. Not only did the occupation take away much of Jordan's revenues, it also added the burden of higher defense costs.

Given the poverty associated with agriculture, migration has been a common response of rural poor. Many farmers and rural laborers migrate to urban areas to take advantage of increased employment opportunities in the industrial sector. The rapid urbanization in Jordan—around 5 percent per annum in the 1980s—has taken some of the best rain-fed land out of permanent cultivation. Higher wages in neighboring oil-rich countries have attracted international migration. Roughly 40 percent of the workforce was employed abroad.

Since the return of many migrant workers after the recent slump in oil prices, there has been a severe rise in unemployment in Jordan. Unofficial estimates place the unemployment rate at 12.5 percent, further adding to the country's recent economic woes. ■

Africa



Africa has replaced Asia as the region of greatest concern about hunger. Much of Africa has come to be characterized by famine, declining per capita agricultural production, extensive debt, and collapsing social services. For many observers, the term "food security" in Africa is a contradiction. In a continent of 550 million people, some 200 million are hungry or vulnerable to hunger, and poverty is almost sure to increase in the foreseeable future.

Hunger conditions, already serious in many parts of Africa, worsened in the 1980s, as the following country essays show. The reasons are complex, but chief among them are a set of economic, political, and management problems which have led many Africans to feel betrayed by their governments. Economic policies biased toward elites, bloated and ineffective bureaucracies, corruption, and repeated coups have taken their toll.

Falling prices for Africa's export commodities and rising debt obligations have added to these internal problems. Aid to Africa has increased in the 1980s, but the record of aid to Africa includes an unusually high proportion of failure. In addition, poorly-conceived policies by those governments in power, such as the institution of large state-run farms, have further drained limited resources.

In recent years, the primary focus of international agencies has been "adjustment"—helping governments to cope with economic crisis and to adopt policy reforms intended to reduce inefficiencies and restore economic growth. The prescriptions of adjustment have been criticized because they entail additional social costs—thousands of people have lost government jobs, food subsidies have been cut back, and fees for health, school and transportation services have been raised. While economic policy reforms have led to economic recovery in some countries in other regions, adjustment programs in low-income Africa, with few exceptions, have yielded little result in terms of economic growth.

Another obvious cause of hunger in Africa is war. It is the primary cause of recurrent famine. In 1990, over 20 million Africans suffer from war-related famine.

In the Horn of Africa, ethnic differences and repressive governments have sustained some wars for decades. Food is used as a weapon in these wars, sometimes by both sides, but most often by the governments in power since they have greater control over food and relief supplies. In southern Africa, famine results from South African aggression intended to stave off majority rule within South Africa itself. Throughout the 1980s South Africa occupied Namibia, fought in Angola, and the South African military has armed and directed rebels in Mozambique and Angola. Civilian food supplies have been regular targets in these wars.

The 1990s opened with hopes for ending apartheid in South Africa and achieving peace in northeast Africa. These would be major steps in reducing hunger. But economic conditions throughout the continent are still dismal. Many families, communities, and nations are slowly succumbing to encroaching hunger.

Ethiopia

Ethiopia possesses a proud but tragic history. Many archeologists consider Ethiopia's Rift Valley to be an area of early human development. Except for five years in the late 1930s, Ethiopia successfully resisted European military invasions and colonial occupation. In recent years Ethiopia has gained international attention not because of its rich history, but because of hunger. For centuries, food security has been precarious for many people. But since 1983 three major famines have affected millions of people in Ethiopia and Eritrea, because of recurrent droughts exacerbated by warfare.

For nearly 30 years Eritreans have been fighting for their independence from Ethiopia and to re-establish a sovereignty lost earlier in the century. People in the Tigray province of Ethiopia, to the south of Eritrea, have been fighting for more than 10 years to replace the central government which they consider unrepresentative of their interests and authority.

An estimated three million people in northern Ethiopia are at risk of starvation in 1990; another 2 million are at risk in Eritrea. The situation is particularly acute in the provinces of Tigray and Wollo where drought and fighting have disrupted agricultural production. In early 1990, Ethiopia's loss of a major port and of roads throughout the countryside to Eritrean and Tigrayan forces, as well as continued intense fighting, placed the relief effort further in jeopardy. The international community is working to some extent with indigenous relief organizations of the rebel movements, including buying food from surplus regions within Ethiopia for distribution by the indigenous groups to areas of need.

As of April 1990, informed observers feared that rural people will leave their homes and resettle temporarily near sources of food. It was in relief camps during the 1983-85 famine that thousands of people, weakened by lack of food, died from diseases. Using all available routes, not just routes sanctioned by the Ethiopia government, the Food and Agriculture Organization of the United Nations (FAO) and many non-governmental organizations have called for a massive increase in relief deliveries to people most vulnerable to hunger.

The immediate cause of the famine of 1989-90 in northern Ethiopia is a prolonged war which has disrupted agricultural production and food markets. Drought conditions have compounded these problems. Agricultural production in northern Ethiopia in 1989-90 was half normal output. Even so, extensive hunger has been a continuing plague throughout the country for many years.

At least 14 million people (28 percent of the population) are chronically undernourished. A national survey in 1982 found 42 percent of children under five stunted and 12 percent wasted. According to the FAO, recent information from Wollo shows "the highest percentage of wasted children thus far reported anywhere in the world."

Children and women face particular hardships throughout Ethiopia. The under five mortality rate is 233 per 1,000 live births (1990 estimate) and the infant mortality rate (IMR) is 142 per 1,000 live births—among the highest in the world. Surviving children experience continued problems of undernutrition and are highly susceptible to diseases (such as diarrhea, measles, whooping cough and tuberculosis) which interact with undernutrition to further weaken children. There are increasing numbers of orphans because of war and drought. Many of the 50,000 orphans survive through prostitution, begging and theft.

Women in Ethiopia suffer among the world's highest maternal mortality rates (MMR) at 2,000 per 100,000 live births. In most regions, women eat last from the leftovers of the household meal. They experience high rates of anemia, malaria, goiter and obstetrical problems. In some places, the average age for a woman to marry is 14 years, a problem because early child-bearing is correlated with underweight infants.

Food security is precarious for many people in Ethiopia. U.S. Agency for International Development (USAID) estimates that per capita availability of grain has dropped 22 percent during the past decade. If current trends continued, yearly shortfalls in domestic food supplies of up to 40 percent would be possible for the year 2000. However, an end to the wars, along with creative development policies, could turn such figures around. The country lacks the resources to import food to meet the shortfall in demand, even though food aid increased tenfold between 1974 and 1987.

The roots of the food security crisis run deep. Until 1974, a feudalistic structure of agriculture forced peasant farmers to give up much of their food production to sustain the lifestyle of ruling elites. Investment in agriculture was minimal, and continuous taxation of farmers suppressed their ability to develop new farming technologies. Coupled with the largest livestock herds in Africa, the intensive cultivation led to severe degradation of the land and serious soil erosion.

Although drought, erosion and deforestation are part of the agricultural problems in Ethiopia, the overwhelming evidence suggests that hunger and famine in the country are due to human choices and actions.

After the overthrow of the feudal government in 1974, the most radical land reform ever in Africa was undertaken. Land was promised to producers, but the new government's policies were designed to ensure adequate levels of food for the urban population, the civil service, and the armed forces. Landlords in the previous feudal system have been replaced by the government in a state controlled system.

Further, the government has underfunded and unequally distributed investment and support services for agricultural production. Ethiopia spends less than 10 percent of its annual budget on agriculture. Up to 50 percent of the budget goes to the military to carry out its wars against Eritrea and several major opposition movements. The government has poured 43 percent of all agriculture investment into huge state farms, even though these units accounted for only 6 percent of all output. For the government, state farms are crucial in providing food to the army.

Peasant farmers still provide more than 90 percent of all marketed agricultural produce, but government policies foster hunger among the food producers. Farmers are offered low prices for their crops. High taxes on crops often force households to sell food, seed and livestock to raise money to meet tax quotas.

In March 1990, the government announced major changes which could alter the agricultural outlook in Ethiopia. These include greater privatization of farms and increased competition in the marketplace. Analysts are now monitoring the effects of these changes.

Ethiopia and Eritrea are strategically important because they border the Red Sea through which a significant amount of the world's ocean-going commerce flows (notably oil). The United States was the main military supplier to the feudal government through 1974. The Soviets have been Ethiopia's main military patron since 1977, although Israel has provided a large amount of lethal assistance during the last year.

Ethiopia's ability to rely upon (largely) Western food aid and Soviet military aid has permitted the government to sustain its wars and to use food as a weapon in the fighting. International relief efforts must normally be sanctioned by the government, so in many cases people in need are excluded from assistance. Within areas controlled by the liberation movements, the Ethiopian strategy has been to bomb areas where crops are being grown and to attack food distribution sites. It is estimated that 30-40 percent of agricultural production in Eritrea is disrupted by Ethiopian air attacks.

Eritrea

Two million Eritreans face starvation in mid-1990 if emergency assistance does not reach them. Outside sources suggest that cereal production has nearly failed in Eritrea due to the war and drought in the 1989-90 season.

Providing relief during warfare is especially difficult. Both sides in the civil war have used food as a weapon by refusing to permit delivery of food relief. In 1990 that is particularly true in Eritrea. Eritrean forces captured the major Ethiopian port used by international aid agencies for delivering food. Food relief channels have been disrupted. For fear of offending the Ethiopian government and being barred from further work in the country, the United Nations, bilateral donors and some Western nongovernmental organizations have moved cautiously to set up new avenues. The Ethiopians have been pressing donors to airlift food to the city of Asmara, cut off by Eritreans from external support. The airlift would be costly and divert both funds and attention from other areas of need.

However, one of the strengths of the independence movement in Eritrea (and the resistance in Tigray) is the ability of indigenous organizations to manage food distribution. These relief organizations have won praise from independent observers for their efficiency. During the famine of 1983-85, 70 percent of affected civilians lived in areas accessible *only* to liberation movement relief operations. The international relief agencies, led by the United Nations and the United States, chose to direct most of their supplies through the *government* channels of distribution. The reasons given reflected bureaucratic or political priorities rather than direct response to human needs.

That pattern has been followed since the famine alarm sounded anew in 1989. The United States again committed to meeting about one-third of Ethiopia's emergency food needs. However, most of the assistance was intended to flow through government distribution channels, despite the fact that an even greater percentage of the hardest hit famine areas are now under the administration of insurgency forces than was the case five years ago. Meanwhile, the rebel-sponsored relief channels are underutilized.

The Eritrean Relief Association (ERA) has attempted to go beyond the traditional role of food distribution. Its program includes a popular-based strategy of development designed to address basic human needs.

Numerous economic reforms also have been implemented in Eritrea. Land distribution is by far the most significant. Land is central to rural prosperity and food security. Women are allowed to own land. Absentee villagers are able to keep land only under certain strict conditions, and the charging of high rates of interest on loans to poor peasants is banned. Some land was put aside to be farmed collectively by the village, with the produce being used to help finance local services—the building of a clinic or school, wages for teachers and health workers, or buying anvils for workshops producing agricultural tools.

The tragedy of massive human starvation and suffering again looms over parts of Ethiopia and Eritrea. The complexity of managing successful relief operations is offset by the existence of well-placed internal organizations that are capable of averting starvation if they receive adequate external support. In the longer term, Eritreans and other people throughout Ethiopia have designed programs and reforms which offer hope for overcoming hunger.

Somalia

Vulnerability to hunger is widespread in Somalia, although data to provide a full description of hunger conditions are incomplete. Also, official data often are biased against rural producers, but the trend during the past five years appears to be a worsening of conditions likely to contribute to hunger.

UNICEF instituted a Nutrition Surveillance System in several regions of Somalia in 1988, and the results during the first two years showed an "alarming" drop in the nutritional status of children. In 1988 FAO reported that a high prevalence of both stunting and wasting in children are seen. Even in the capital city of Mogadishu, a 1986 study at Maternal and Child Health centers found 65 percent of children who attended clinics to be either moderately or severely underweight for their age.

Indicators of hunger are seen in basic statistics. More than 70 percent of the rural population live below the absolute poverty level, although wealth in livestock is inadequately factored into these calculations. The infant mortality rate in 1990 is estimated to be 121 per 1,000 live births and the under-five mortality rate, 233—both among the highest rates in the world. The maternal mortality rate (MMR), at 1100 per 100,000 live births, is the third highest in the world. Two-thirds of Somalia's population lacks access to safe and adequate drinking water and three-quarters do not have access to basic health facilities.

In recent years two factors have exacerbated the problems of hunger in Somalia: debt and internal warfare.

These factors are linked to one another. In order to service its debt payments and qualify for international loans, Somalia has had to reform its economic policies. But the removal of price controls together with a more open import policy led to rapid inflation. Taxes were increased in order to improve government revenues, and public services were cut. In essence, the government has passed along the austerity measures to low- and middle-income people. Popular discontent to these measures was strong and provoked internal repression. Drought in 1987 killed many animals, and pastoralists lost much of their economic security which would protect them against wider economic changes. In 1988, open fighting broke out against the government.

The most serious fighting occurred in northwestern Somalia. Also, other opposition movements have arisen against the government forces in the west and south. The government's response has been swift and harsh: 50,000 civilians have died in northwestern Somalia since May 1988.

Malnutrition rates have escalated in areas of the fighting, and the ability of people to address their food security and poverty problems has been further compromised.

The fighting also has caused hundreds of thousands of refugees. As of early 1990, Somali refugees and those displaced internally were particularly vulnerable to food insecurity. For example, more than 350,000 Somali refugees in Ethiopia are being insufficiently aided by the United Nations and donor governments. Also, the United Nations has been denied sufficient access to assist refugees (some have died of starvation) who fled to northeastern Kenya. Further, the hundreds of thousands of people who are displaced internally by the fighting are not presently receiving assistance from any outside source.

At the same time, Somalia hosts an estimated 600,000 Ethiopian refugees who flowed back and forth across the border during the 1980s, escaping war, drought and repressive Ethiopian government policies.

Early in 1990 severe food shortages occurred in refugee camps in the northern and eastern parts of Somalia. These shortages came after the United Nations suspended food imports for refugees because the United Nations could not monitor food distribution in the midst of fighting. There have been reports of starvation among refugees, but these are difficult to substantiate. A survey in December 1989 around Borama, in northwestern Somalia, found more than 30 percent of children under five to be wasted.

Somalia's economic and cultural roots are largely pastoral, with land and livestock the principal means of production. However, the food security needs of rural Somalis have been largely ignored by the government. This has created pricing policies on livestock and crops that discriminate against producers and limit their ability to save and invest in agricultural growth. Inadequate agricultural credit and inputs, high rates of taxation, and development projects designed primarily to expand export-oriented production contribute to the drain of rural resources.

Assessing Somalia's food security situation is controversial. Some authorities argue that food production has decreased during the past two decades, while others suggest that production figures do not take into account the food and wealth obtained from livestock. Based on official statistics used by most U.N. agencies, Somalia appears to experience chronic food shortages, although the country was self-sufficient in food grains in the early 1970s. But those statistics fail to account for the calories derived from milk and meat, a significant factor in a country that has a large number of pastoral people. One author who has reviewed the official statistics on food availability wonders how the Somali people, if food availability is as inadequate as officially portrayed, survive year after year. Uncounted food production and a variety of informal networks for exchanging food and gaining cash allow many Somali people to survive in an economy that, judging by official statistics, appears to be inadequate to meet people's needs.

Despite the strength of the informal economy, warfare and government policies have increased the vulnerability of poor people to hunger. For example, although the most recent winter harvest was good for all regions except the north, inflation has reduced food purchases by poor households. In 1989, inflation reached more than 300 percent for some essential commodities. Somalia's policies to facilitate debt repayments, designed in response to IMF and other lender requirements for continuing loans, place the greatest burden on low- and moderate-income people.

Sudan

Sudan's recent history of hunger is deeply tragic. More than 100,000 people starved to death in the drought-stricken western part of the country in 1984-1985. Up to 500,000 people perished of hunger and related factors in the war-torn south in 1987-88, and half the total population of 18 million people in the northern part of the country are chronically hungry or vulnerable to periodic hunger. The prospects in 1990 are equally bleak. Famine and starvation are serious possibilities in the south where war prevails and in the west where food supplies are well below need. As many as 16 million people (about two-thirds of the total population) are hungry or immediately vulnerable to hunger in 1990.

Even in relatively tranquil areas, undernutrition is a serious problem in Sudan. UNICEF estimates that nearly two-thirds (63 percent) of two- to-five-year-old children are stunted. In 1987, 13 percent of young children in northern Sudan were wasted, one of the highest rates in Africa and at least double the average rate in Africa. The infant mortality rate (IMR) is 99 per 1,000 live births and the under five-year-old mortality rate is 153 in 1990, though rates show major regional variations. The incidence of low birthweight babies is high (15 percent).

Vulnerability to hunger is linked to access to health and other social services. However, about 60 percent of the rural population in the Sudan lacked access to any health facility in the 1980s, and 90 percent of rural residents did not have access to safe or adequate water. Immunization of children is three times higher in the capital than national coverage as a whole. But only 10 percent of children whose parents are displaced by warfare and reside in shanty towns around the capital are fully immunized. Illiteracy among women was 86 percent in 1985.

Civil war affects food production in southern Sudan. In 1989, the government, opposition forces and relief agencies arranged to deliver more than 100,000 tons of food to both government-and rebel-held territory in the south. Starvation, which had taken the lives of an estimated 250,000 people in 1988, was largely averted in 1989. Another 100,000 tons are needed for 1990. However, the agreement, brokered by the United Nations between the government and rebels to allow safe passage so food could go unimpeded to people in need, was revoked in late 1989 by a new military government in Khartoum. This led to a resumption of the use of food as a primary weapon of war. A new safe passage agreement was reached in the spring of 1990, but probably too late to meet emergency food needs before rains interrupted relief convoys. Early in 1990, people in the southern city of Juba faced imminent starvation as a result of constraints on the movement of relief food. Other areas in the south could be threatened.

In the regions of Darfur and Kordofan in the western part of the Sudan, up to 6 million people are threatened by famine. The immediate reasons for this emergency are drought, which affected crop production, local conflicts and the influx of people fleeing the war in the south. Rapid price increases of food on the private market in mid-1990 exclude many people from getting needed food.

Ironically, the Sudan had a national surplus of grain in 1988-89, but the government has chosen to export a large part of the surplus to Egypt and Saudia Arabia rather than seek to ensure adequate internal distribution. Nearly 60 percent of the country's exports are food products.

Sudan has experienced marked fluctuations in agricultural output in recent years. Drought and spreading desertification are visible factors affecting production, especially in the northern and western parts of the country.

More significant has been the drain on the national economy caused by debt and policy responses to debt. Government and international aid agency policies have sought to fulfill the dream of making Sudan the "breadbasket" of the Middle East through heavy investment in irrigated food, as well as other agricultural production systems and related infrastructure. Those policies have been tempered by falling commodity prices on international markets and the accumulation of $8 billion in debt. For example, the value of cotton exports fell from $793 million in 1981 to $265 million in 1987. At the same time, Sudan was using one-third of its foreign exchange earnings to import food.

To further stimulate agricultural production, higher prices have been offered to producers by the government. However, in recent years, prime agricultural land has become more concentrated in the hands of wealthy civil servants and military officers who have benefited most

"The present unacceptably high infant mortality rate [in Sudan]...is certain to worsen as a consequence of the war and the hunger resulting from the disruption of agricultural activities in the food-producing areas."
—Oliver M. Duku, project leader for AMREF/WHO rural health support project

from producer price increases. Private business owners and traders further contribute to food insecurity by hoarding grain and driving up market prices. In 1988-89, private traders were estimated to hold 2.5 million tons of sorghum, an amount nearly equal to annual national consumption. Despite the current internal shortages, especially in the west, private traders continued to export grain as of early 1990.

As export markets sagged, attempts to reduce government expenditure increased human suffering. Development and social service spending were cut in half between 1978 and 1985, contributing to a decline in nutritional standards and health care. During the same period, expenditures for government administration and defense more than tripled.

Like other countries facing internal economic imbalances and losses to the international economy, Sudan has sought assistance from the World Bank and the International Monetary Fund (IMF). These agencies cited mismanagement and low prices accorded farmers as causes of the country's economic and agricultural problems. In order to assure continued loans from the World Bank and IMF, Sudan accepted their policy guidance and increased agricultural prices. Agricultural exports improved in 1988 but were not sustained in 1989. On the other side, the agriculture reform policies have reinforced the existing social structures while the military, wealthy merchants, larger landowners and high-level bureaucrats have used their wealth and positions to reap the policy benefits. During the 1980s, the food security, health and economic well-being of the 80 percent of the people who live in poverty have not improved.

"...looting of food has lowered the security of subsistence farmers. Food reserve levels have become drastically reduced. The worst impact of looting might be on seed stocks....There is the danger of the permanent loss of good crops which have been carefully selected and tested over the centuries, thus increasing even more the vulnerability to famine of the people..."
—*Kosti Manibe, Sudan Council of Churches*

The humanitarian crisis in the south is rooted in similar causes. Agreements between the government and the World Bank and IMF on development strategies have tended to reinforce the privileges of the richest segments of Sudanese society, while exacerbating regional inequalities. Government and international investment has been concentrated in the east-central region of Sudan, the main export crop region. Resentment against these biases in development strategy has helped fuel the insurgency by the Sudan People's Liberation Army (SPLA) in southern Sudan since 1983. The United States, a major supporter of Sudanese governments and their development policies in the 1980s, was legally forced to suspend all but humanitarian aid in February 1990, following a military coup.

The SPLA explains that it is not just a movement pushing for greater southern autonomy or secession, like previous rebel groups in the region. SPLA leaders say that the southern problem is only a component (albeit a large one) of a more general problem: the severe underdevelopment, poverty and vulnerability of all regions outside the favored east-central Sudan.

The intensity of the war has impeded peace discussions, and both sides have used food as a weapon by obstructing food production, marketing and relief operations. Without peace and an end to the direct and indirect violence arising from poverty, the people of Sudan face a difficult future.

Egypt

If a television in many homes can be considered a sign of modernity, Egypt fits the description. The outward appearance of consumer well-being is not matched in the area of food security, however.

As of 1988 more than 30 percent of Egyptian children 3-36 months were stunted; in rural areas, an average of 35 percent of children were stunted, with the figures rising to a high of 39 percent in rural southern Egypt. By contrast, about one quarter of young children in urban areas were stunted.

A 1981 national nutrition survey found that 35 percent of the total population of the country received less than 2,000 calories daily, an intake considered inadequate for full, productive lives.

Like nutrition rates, infant and under five mortality rates differ by location. Both infant and under five mortality rates are twice as high in rural as urban areas, with the highest under five mortality rate being 187 per 1,000 live births in rural southern Egypt.

Underlying these hunger problems is widespread urban and rural poverty. In 1984 half of the total population of 46 million lived in poverty, with somewhat higher rates in urban areas, due to high unemployment rates. Female urban and rural unemployment is three to five times greater than for males, reaching an official figure of

35 percent in urban centers.

Poverty conditions in Egypt seem to have worsened since the mid-1980s following seven or eight years of improvement in incomes. One of the major reasons for the improvement was the substantial remittances of cash by the million or more (mainly rural) men who had migrated to work in Libya and the Gulf states in the wake of the oil and construction boom in those areas. While many households enjoyed higher incomes as a result of the out-migration, the trend has been for incomes to increase most in wealthier households, thus contributing to increased income inequality between socio-economic groups. The downturn in oil prices during the 1980s slowed out-migration and placed more pressure on the Egyptian economy to generate jobs. For the most part, the economy has been unable to do that sufficiently.

On the other hand, there were improvements in real agricultural wages between 1973 and 1986 which may have improved income distribution. Rural wages improved in the wake of labor shortages created by the increased out-migration. Even so, wages in non-agricultural sectors tend to be 30 to 70 percent higher than agricultural wages, and in relationship to poverty and hunger, those general improvements in real agricultural wages were not equally shared. Women and children saw smaller improvements and in some cases their real wages declined; in the case of children picking cotton, they declined by about 20 percent between 1978 and 1984. Also, agricultural wages for women are about two-thirds those of men, and children's agricultural wages are just under half those of men.

There are differences in the allocation of food within households, with male adults usually receiving more food. One authority suggests that this skewed allocation is a choice made by households to assure the survival of the whole family. By feeding the man first, they assure his ability to work regularly and bring in a regular income.

As an indicator of the survival strategies of low-income people in Egypt, as of the late 1980s, an estimated 1.8 million children between the ages of 6 and 12 were working outside the home. Most children work in agriculture and construction; others do carpet weaving and garbage collection.

Underlying these problems of poverty are the regional inequalities of government investment in industry and social services. Housing, education, health and population control programs receive more attention in urban areas than rural. Budget programs tend to favor higher income people, especially those in urban areas. Egypt's rapid population growth (2.7 percent per annum in the late 1980s, but expected to drop to 2.2 percent in the first half of the 1990s) relative to limited arable land and investment resources is fostered by the urban-rural disparities in the very programs designed to improve health, fertility control and nutrition.

In order to meet food demand and consumption needs, Egypt imports a substantial portion of its food; $4 billion was spent on agricultural imports in 1988. The United States has been a major supplier of agricultural products to Egypt since the signing of the Camp David Accords which effected a peace agreement between Egypt and Israel in 1978. U.S. Title I food aid provided Egypt with about one million tons of wheat, wheat flour and other products in the late 1970s and early 1980s. All together, Egypt receives about $2 billion annually in economic and military aid from the United States as a part of the peace agreement.

The government has also provided subsidies on many food products, most of which have favored urban consumers. Budgetary constraints in the late 1980s forced cuts in subsidies on bread, beef and poultry. Consumer prices on these items doubled. Wheat and corn output increased during the 1988 and 1989 seasons, but not sufficiently to meet internal demand. However, food imports were cut as foreign exchange became tighter, thereby putting further pressure on food supplies while prices increased. The impact on low-income consumers, many of whom already do not receive enough to eat, will need to be monitored in the early 1990s.

Morocco

Morocco received public attention in 1989 as host to a lavish birthday party hosted by Malcolm Forbes. Guests were flown in from abroad and treated to several days of North African cuisine and showmanship. The estimated cost of this private party was $2 million, a sum that stands in striking contrast to the poverty in the surrounding rural areas. In those areas, the stunting rate among children under five is reported to be between 30 and 61 percent, in contrast to the national average of 25 percent.

There are discrepancies in figures on infant mortality. The Food and Agriculture Organization of the United Nations (FAO) suggests that infant mortality rates (IMR) increased from 98 per 1,000 live births in 1983 to 120 in 1987. By contrast, the Moroccan Ministry of Public Health reported a decline in IMR from 91 in 1980 to 73 in 1987. The increase suggested by FAO is likely more accurate, as it reflects the effects on low-income households of economic policies associated with International Monetary Fund (IMF) loans to rapidly expand Moroccan export production.

In terms of nutritional deficiencies, anemia is a problem for about 20 percent of pregnant women, and goiter shows a very high prevalence (80 percent) in localized areas.

Growing indebtedness and economic contraction during the 1970s and early 1980s have influenced food security in Morocco. As a part of 1983 and 1986 loan agreements with the IMF, the government cut back on public investment and reduced consumer subsidies. With 20 percent of the urban workforce permanently unemployed, and with extensive labor migration from and within rural areas as people seek seasonal work, the constraints on lower income people are likely to have nutritional impacts that in turn affect health and mortality rates. Also, government policies to expand exports have relied upon cheap labor, and during the 1980s these economic initiatives seem to have exacerbated existing income and land-holding inequalities, leaving low- income workers in situations where their food security was at risk.

To add cash to the household, women have taken on more work and wage responsibilities, but they have also been the most exploited. In the mid-1980s women provided more than 40 percent of hired agricultural labor, but their real wages declined during the previous decade. Women make up a large percentage of textile workers but receive the lowest wages of any group in the manufacturing sector.

A major reason for Morocco's economic difficulties is the costly war it has waged to control the Western Sahara, which Morocco has occupied since the Spanish pull-out of their former colony in 1976. Military equipment imports and spending have diverted money from internal investment. In 1989, military spending was nearly 15 percent of the annual central government budget; health services received less than 3 percent. The Moroccan military is sustained with heavy doses of U.S. aid. Nearly half of all U.S. aid to Morocco is security related while about 8 percent is for development.

Formerly an exporter of wheat, Morocco now imports more than one million tons of wheat, one-quarter of its annual supply. In the mid-1980s food aid, in the form of wheat, accounted for nearly half of all food imports. The United States was the near-exclusive supplier. Commercial imports account for about 60 percent of all food imports.

There have been policies to stimulate agricultural production. More favorable marketing conditions and prices, along with good weather, stimulated many farmers and contributed to above normal output in 1989. However, drier weather for the 1990 season may cause some declines in wheat production. Further, structural expansion of the agricultural base and overall food security through a land distribution program targeted to landless people and sharecroppers is said to be progressing slowly.

Ghana

Undernutrition affects more than one-third of the young children in Ghana. Almost one million children under five are underweight for their age; more than 30 percent of children under five are stunted. Regional variations, reflecting relative poverty, are notable. For example, 50 percent of young children in the central and northern regions of the country are stunted.

There is substantial information about hunger in Ghana, but a U.N. agency notes that despite the large number of agencies concerned with nutritional improvement, hunger remains. Hunger is directly linked to low living standards during the past two decades.

Living conditions declined steadily under years of policies that spawned economic inefficiency and neglected rural development. The number of people in poverty increased 450 percent in the northern region of Ghana between 1970 and 1986. Real incomes of most rural and urban people have fallen. The World Bank's recent analysis finds two-thirds of Ghana's rural people and nearly three-fifths of the urban population living below the poverty line.

In response to the economic situation, the government implemented the Economic Recovery Program (ERP) in 1983 with support from the International Monetary Fund (IMF) and the World Bank. Government spending for social programs was cut, currency was devalued to increase exports and discourage imports, and the production of cocoa, the major foreign exchange earner, was stimulated with higher prices and other farmer incentives.

The government's economic reforms have increased real wages for those workers who are employed, increased earnings for cocoa farmers, increased export earnings, and improved economic growth generally. Yet hunger persists. The production of food for national consumption has received little government attention and high inflation in the cost of everything hurts the poor severely. During the years 1977-1987, 66 percent of rural Ghanaians and 59 percent of the people in urban areas were living below the poverty line.

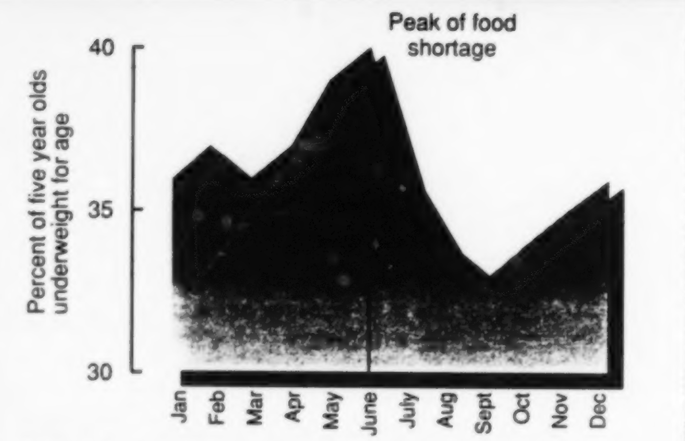
Children suffer most from these conditions. When drought in 1984 exacerbated food shortages, 47 percent of all children under five were measured as underweight for their age. Improved crop weather also improved child nutrition, but in 1986, 36 percent of the under-fives were still undernourished. Just one year later, under the influence of continued economic crisis and government neglect of social programs, the percent of underweight young children again rose above 40 percent.

Pregnant women are consuming, on average, only 1,704 calories per day, the lowest food energy intake of any group in Ghana. Their poor nutritional status carries over to their children. Nearly a fifth of all new-borns have low birth weights. Anemia, and goiter and vitamin A deficiencies in some rural areas are also serious national nutrition problems.

The very programs of the government to improve economic conditions have increased the difficulties of the poor to raise or purchase adequate food for themselves. Small-scale farmers struggle to survive by selling more of their production (with less kept for household consumption), by selling their labor to wealthier and larger farmers (with less time to work their own land), or by selling their most precious asset, their land. "The rich get richer and the poor, poorer."

Ghana: Seasonal Variations in Undernutrition, 1986

Percent of Under-Five-Year-Olds Underweight for Age by Month



Hunger becomes most acute in the months prior to harvest, reduces when the new season's crops become available and levels out in subsequent months before resuming the cycle.

Source: Catholic Relief Services

As in many other African countries, there are notable seasonal variations in hunger in Ghana. Carryovers from harvest are often inadequate to meet both household consumption needs and cash sales, so shortages usually occur in the weeks and months before new crops ripen. The impact is most severe among poor farming households, especially the one-third of farming households in Ghana headed by women. Households skip meals. In the northern regions of the country food intakes fall to between 60 and 70 percent of normal health requirements. Late in 1989 heavy rains caused flooding in the northern and north-eastern regions, and houses and crops were lost in areas that already faced great poverty and hunger.

A new populist government has sought to mitigate the worst effects of the economic reforms with public employment and welfare programs. However, these programs reach only a small proportion of the people in need. For example, a supplemental feeding program accommodates only 15 percent of undernourished children. The entire national public health care program has a budget approximating only half the budget of one private urban hospital in Ghana. Although Ghana has had two successive years of bumper crops and national food supply is considered "satisfactory" with a sizable surplus of maize for export, the direction of economic growth in Ghana is unlikely to alleviate poverty and hunger for the majority of the people during the next several years.

Nigeria

Nigeria has the largest population of any sub-Sahara African country. About 113 million people, or 25 percent of the sub-continent's people, are Nigerians. Also, Nigeria is one of the largest countries in land area, being twice the size of California.

The effects of hunger are felt throughout this large country. At least 20 percent of children under five suffer from wasting, one of the highest rates in the world. There is little overall difference between urban and rural rates of wasting in these young children, but regional differences are notable. The percentage of wasted young children peaks at 30 percent in the third year, then declines somewhat through ages 7 and 8 when an upward trend resumes through the early teen years.

A study in the first half of 1984 of school age children (aged 6 to 11) in the several ecological zones of Nigeria found about half of the children with moderate and severe undernutrition (using weight for age criteria). Low intakes also of iron, thiamine and riboflavin were noted in all children, the proportion of children with these deficiencies increasing with their age.

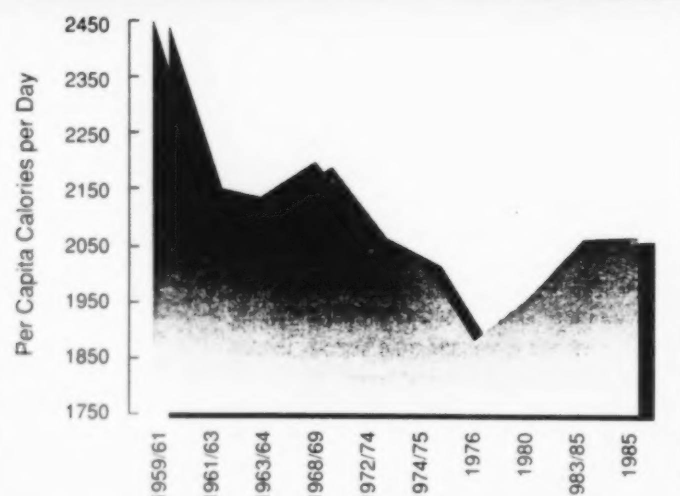
A 1985 study of rural communities in southeastern Nigeria found energy intakes to be below the Food and Agriculture Organization/World Health Organization (FAO/WHO) recommendations for all age and gender groups, from one-year-old children through adults. Four- to six-year old children showed the greatest discrepancy between the recommendation and their actual energy intake.

Given available evidence, many children and adults do not receive sufficient food to lead full and productive lives. A lack of government support for basic agricultural crops and economic austerity since the mid-1980s have left many others vulnerable to hunger. As many as 60 to 70 million Nigerians are hungry or vulnerable to hunger.

Studies during the past three decades point to a decline in per capita calorie intake among Nigerians. However, data in Nigeria on food production and population size, from which per capita calorie figures are derived, are weak, incomplete and contradictory, and caution is needed in ascribing hunger to either production declines or population increases alone. Other factors that contribute to hunger in Nigeria relate to internal and external events. Among those was the neglect of agriculture by policymakers during the 1970s. The country used revenues from rapidly expanding oil exports to fund food and other consumer imports and large, capital-intensive agricultural and industrial projects. Urban and government employment rapidly expanded, drawing people away from farming and other rural enterprises.

The collapse of international oil prices in the early 1980s has had lasting economic repercussions on Nigerians. Food imports were initially reduced and almost stopped altogether in 1986. Cut-backs in government spending spurred urban unemployment. Inflation has

Nigeria: Per Capita Calorie Supplies



Source: I.O. Okinyele, *Review of the Food and Nutrition Situation in Nigeria*. Food and Agriculture Organization, 1987.

soared. The Nigerian Federal Office of Statistics found that real rural incomes fell by 27 percent between 1980 and 1985; urban households saw their real incomes fall by half during the same period. A survey of low- and medium-wage civil servants in 1986 and 1987 found them spending more on food but unable to buy as much as in earlier years. People tried to cope with inflation and reduced real wages by buying cheaper food and eating less; one-third cut out one or more daily meals.

One result of this economic contraction is a slowing of rural out-migration as urban employment opportunities declined, and even a reverse migration as young people return to their rural homes. Many rural households that depended on remittances of wages from family members working in cities to supplement their incomes also have felt the impact of the economic squeeze. On the other hand, there appear to be more people involved in food production, and there may be a trend toward improved food consumption in rural areas.

The economic changes in the 1980s put a further squeeze on low-income households and further exacerbated the socio-economic inequalities in Nigerian society. An example of those inequalities is in health care, a crucial factor affecting nutritional well-being. Government budgetary support for health services declined during the 1980s, to just one percent of national expenditures in 1987, a reflection in cutbacks in overall government spending. The number of health care facilities dropped by 25 percent between 1980 and 1985. About 70 percent of rural people do not have access to basic health facilities. Whereas public health care had been virtually free, fees were introduced in public hospitals in 1985, and now it can cost the equivalent of a monthly salary for even moderate levels of treatment. Foreign exchange for drug imports has been largely monopolized by private interests, and many hospital patients are unable to get medications. Meanwhile, wealthier people can seek private treatment or special facilities in public health centers. Others fly to Europe or North America for treatment.

The contractions in the Nigerian economy during the latter half of the 1980s have reinforced the prevailing nutritional conditions from the earlier part of the decade. Agricultural output increased in 1988, in part a response to price increases for crops. However, these increases were accompanied by rapid increases in food prices, making it more difficult for lower-income people to acquire sufficient food. Thus, the economic and food crises continue into 1990.

The Sahel

The Sahel region of West Africa includes the countries of **Senegal, Mauritania, The Gambia, Mali, Burkina Faso, Niger** and **Chad**. It is a region of irregular rainfall, and the northern tier in these countries falls within the Sahara Desert. Agricultural production is dependent upon favorable rains. Drought in the mid-1980s affected the entire region; by contrast, bumper crops were harvested in 1988. In 1987 and 1988 desert locusts were a major threat to crops, and in 1989 grasshoppers and erratic rainfall affected localized areas across the Sahel. Famine, followed by starvation, has occurred in the region on several occasions in the 20th century.

Underlying the periodic famines is extensive hunger and poverty, especially among at least 20 to 30 percent of young children across the region. Undernutrition is strikingly prevalent: Among children 3 to 36 months in Mali about 11 percent are wasted. Among all children under five, between 18 and 23 percent were found wasted during the 1984-85 drought. In Niger there was a steady increase in underweight children in the 1980s, peaking at nearly 50 percent of under fives during the 1985 drought. Stunting rates for rural children under five in Niger during the 1984-85 famine were nearly 40 percent, and wasting rates were nearly 25 percent—extremely high and indicative of the severity of food deprivation to young children in that period.

In one chronically food-short area of Chad, wasting was found in 14 percent of children at the end of 1987, although in other areas the prevalence of wasting was found to be between 2 and 3.5 percent. In Senegal, in 1986 about 23 percent of children aged 6-36 months were stunted, with higher rates in rural than urban areas.

Infant and child mortality rates in the Sahel are among the highest in the world, reflecting the difficult nutritional and health status of children in the region.

Anemia is considered a major nutritional problem in the Sahel. In Mali, an estimated 40 percent of children and 47 percent of pregnant women suffer from anemia. Malaria is a major cause of anemia which in turn affects the health of both pregnant women and their fetuses. Goiter affects about one-third of the population of Mali.

Following a major famine in the Sahel region from 1968 to 1974, in which an estimated 100,000 people died, the international community committed vast sums of money and expertise to both reduce the risk of hunger due to crop failures from drought and improve the environment. One goal was food security in the Sahelian countries. Since 1975 nearly $10 billion in aid has been committed to the Sahel, especially for development of major rivers for electricity and irrigation, but food security remains elusive for many people in the reagion. Only 4.5 percent of this massive amount of aid was applied to improve rainfed agriculture, yet rainfed agriculture is responsible for 95 percent of the grain produced by Sahelian farmers. A former president of Burkina Faso said of his country in 1984 that economic conditions had worsened during the past two decades, even with—or perhaps because of—the foreign aid provided in the late 1970s and early 1980s. His words apply also to other countries.

Small-scale producers face persistent difficulties. Historically, households have been expected to sell part of their crops for urban and/or export markets. Producer prices were low, preventing a substantial accumulation of capital and often inducing men to migrate to urban or other crop-producing areas in West Africa to earn cash. Greater official support and better land has been accorded cash crops. Food crops have been relegated to more marginal lands; these lands quickly lose their fertility, resulting in falling yields.

Neither small-scale farmers nor the major production schemes have fulfilled the national goals of food self-sufficiency. Commercial food imports and food aid are now an integral part of the food security strategies of each of the Sahel states, although the grains usually imported are rice and wheat which are predominant for urban consumption. Senegal, for example, imports one-third of its food, all but a tiny portion of which is wheat and rice. Opportunities for farmers to contribute to both household and national food security are constrained by the global economic climate in which Senegalese policies (as well as those of other nations) operate. As a part of an economic reform program that Senegal is undergoing, with the backing of the World Bank and the U.S. Agency for International Development (USAID), production subsidies were phased out and credit to farmers was restricted—all while producer prices fell.

Agricultural production in the 1989-90 crop year was generally good across the Sahel. In Niger, however, irregular rainfall, lack of reserves, losses due to grasshoppers and problems in distribution of grain to areas of shortage caused the government to declare that nearly half the total population are vulnerable to food insecurity. In some areas, households are conserving food supplies by reducing food intake. The localized food shortages have pushed up food prices, further limiting access by low-income households. Government distribution of national reserves has been constrained by legal arrangements with a variety of international agencies involved in the economic management of the country.

The complex network of factors that have an impact on food security are not easily resolved. The large international programs of the late 1970s and the 1980s did not provide an environmentally or economically sustainable structure for growth and food security. More hopeful are the numerous community-based organizations and activities which are seeking to address food, development and environmental issues. Many of these groups are small, but others are linked to national or regional networks. Farmer associations in Senegal are a powerful force for representing the needs of poorer people. The Six S Movement (from the acronym in French for the group), which originated in Burkina Faso but is also active elsewhere in the Sahel, effectively links grassroots needs and direction with sensitive international support. The lessons to be learned from these grassroots examples are ones that suggest a way to alleviate hunger in the Sahel:

- People who live in hunger and poverty must have control over the design and implementation of development programs that affect them.
- Food security, community integrity and environmental security are people's major concerns; and these can

be the basis for other activities.

- The size of a project must be manageable; massive and complex projects not only become bureaucratic in management but are more easily co-opted by wealthier, more powerful groups.

Kenya

Kenya enjoys a benign image in the West, an image of safaris and economic stability. For many Kenyans, the Western image masks a reality of poverty and hunger. An estimated 9 million people are undernourished (nearly one third of the population) and another 5-10 million people are vulnerable to periodic hunger.

Recent data on hunger among children and adults are lacking.

Data on young children from 1982 found 38 percent of under five-year-olds to be stunted. A small survey in 1985 in rural central Kenya found 42 percent (twice the national figure) of under five-year-olds severely underweight for their age.

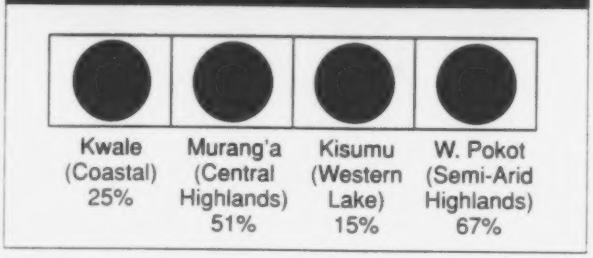
There have been no apparent changes in levels of nutritional status of children since the late 1970s. Food security remains a serious problem, particularly in the coastal and western parts of the country.

A nutritional survey in 1984 of households producing rice on a large irrigation scheme in western Kenya found that 40 percent of children (6-47 months old) of resident tenants of the scheme were stunted. The children of non-resident tenants and of farm households outside the scheme had levels of stunting less than half (16 to 20 percent) that of the resident tenants. One conclusion drawn from this survey is that children of households which diversify both the crops they grow and their sources of income tend to have a better nutritional status than children in households that rely on a narrow range of income sources.

Adult undernutrition is particularly prevalent among poor people. Surveys of road workers from four selective parts of Kenya showed high levels of wasting.

The roadworkers in these samples were from poor rural households which today make up at least 55 percent of Kenya's rural population. In these households, off-farm employment is important for existence, yet the low wages from the work tend to attract men lacking skills, experience or the contacts needed to obtain better paying jobs.

Kenya: Percent of Wasted Males by District



The persistence of hunger is an anomaly in a country which in 1989 produced a 300,000 ton surplus of corn for export. While Kenya generally is able (in terms of supplies and infrastructure) to prevent starvation during periodic droughts, the societal structures limit the ability of households, communities or government to overcome nutritional problems.

The agricultural framework helps explain the discrepancy between surplus production and widespread undernutrition. About three-quarters of Kenya's total agricultural output and just over half the marketed production comes from "smallholders" (farmers cultivating 8 hectares or less). The other quarter comes from larger commercial farmers who grow coffee, tea and wheat and raise livestock for meat and milk. The 1,400 or so large farmers together hold more than 800,000 hectares (about 10 percent of the best agricultural land) and represent 2.4 percent of the country's farmers. A number of large farms are owned by the urban elite, locally described as "telephone farmers" since they oversee their operations by telephone from the nation's capital.

Almost all smallholders sell some of their produce in order to gain cash. However, two thirds of the smallholders have farms smaller than 1 hectare, and there has been a trend during the past three decades for farms to be subdivided among offspring, thereby further reducing the size of holdings. Rapid population growth in the country (at 4.1 percent growth per year, Kenya has one of the highest rates in the world) and high population density in the most productive areas limit the availability of new land for smallholder expansion. Thus, many Kenyan farming households are unable to provide for their needs, whether for food or cash, from their existing landholdings.

The common out-migration of men to seek wage employment has two consequences. First, the steady flow of wage seekers from generally poor rural communities exceeds the availability of work; this allows employers to keep wages low. Second, off-farm employment has increased household incomes while at the same time defusing popular pressure for changes in land ownership which would favor smallholders.

The inequalities in income and land holdings remain major barriers to the poorest 40 percent of rural people in achieving food security. The government has promoted community self-help initiatives to provide educational, health and transportation services, but has suppressed efforts at community organizing attempted by churches and non-governmental organizations around issues of greater equity of land ownership and income, and provision of public services. Thus, opportunities for local communities and groups to overcome hunger either through expanded production by small-scale farmers or more remunerative employment in the urban areas are limited.

Tanzania

Tanzania has experimented extensively with policies to promote social change to reduce hunger and poverty. Those policies have helped instill a collective pride and identity, but some well-intentioned policies have not worked well in practice.

Data on the prevalence of malnutrition in Tanzania are generally available for younger children. A country survey in 1988 found 48 percent of the under-fives to be at least moderately underweight, with 17 percent of the one-year-olds severely undernourished (wasted). A village survey in 1985 in Morogoro, in the central part of the country, found more than 46 percent of children under five to be stunted.

At least one infant in seven is born with low birth weight, an indicator of female undernutrition. There is a high prevalence of iron deficiency anemia, particularly among pregnant women. Malaria and parasitic infections contribute to anemia in up to a quarter of all children under five. Goiter, due to iodine deficiency, is a national problem, especially among school-age children.

In rural areas, seasonal hunger can affect one-third more children (and perhaps adults) than chronic hunger, as household food supplies diminish in the weeks and months before harvest time. In urban areas, economic conditions during the past several years have made living conditions precarious for many low- and moderate-income households. Between 1974 and 1984 real wages fell by 65 percent; consumer prices increased by 1,000 percent between 1976 and 1986. The typical urban wage can buy enough food for a household of six only four to six days of the month. To cope with this economic crisis, almost all urban households rely on a *mradi*, a private money-making activity—from selling vegetables to repairing equipment—in the informal sector, to raise additional cash. Still, most poor households, especially those headed by single women, have difficulty in obtaining an adequate diet.

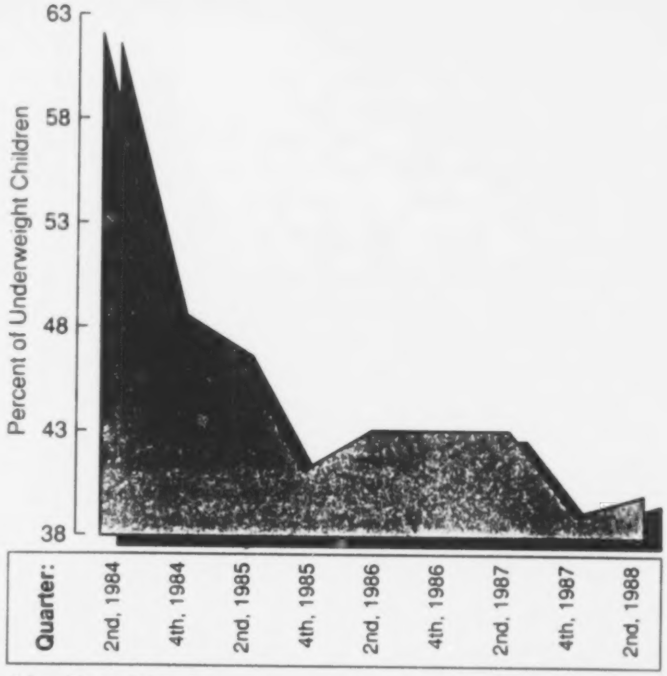
Thus, hunger and vulnerability to hunger and nutritional deficiencies affect as many as 10 to 12 million people out of a total population of 26 million.

Adding to the long-term problems were floods in the early spring of both 1989 and 1990 which destroyed ripening crops in southeastern Tanzania. In 1989 an estimated 70,000 people faced severe food shortages. Government relief efforts were hampered by poor roads and washed out bridges. At the same time, in other parts of the country, generally good weather and favorable producer prices resulted in record grain sales by farmers in 1989. The government exported a part of a 100,000 ton surplus of cereals.

There are several principle causes of hunger in Tanzania. First, the ability of the country to fulfill its plans for providing health, education and other services for people has been severely constrained during the past 15 years by the generally low prices received for its commodity exports. The low international prices of sisal, coffee, tea and cotton limit what can be paid to farmers for their crops, as well as what can be gained in foreign exchange to buy the imports needed for internal production.

Second, internal inequalities, both class and regional, affect nutritional well-being. In some areas, such as the productive Kilimanjaro region, severe malnutrition is due to poverty that, according to one source is "at least partially attributable to lack of access to productive land." Some areas are less well served by basic services, including

Tanzania: Reductions in Underweight Children, 1984-1988



A health and development program in southern Tanzania built on community monitoring of nutritional status showed significant results in improving nutritional status of children.

Source: Republic of Tanzania, World Health Organization, UNICEF, evaluation of Iringa Project 1988.

health and nutrition programs.

Third, some of the government's ambitious efforts to reduce poverty have backfired. For example, some of the roots of Tanzania's hunger situation can be traced to disruption of long-established local food production systems by the controversial relocation program, known as *ujamaa*, and subsequent mismanagement of the program. *Ujamaa* villages were established in order to overcome perceived inequity in rural communities. At the time of independence, most agricultural communities in Tanzania consisted of highly scattered farming households. The *ujamaa* program sought to consolidate these communities into more compact units, so as to provide educational, health and agricultural services in an efficient manner. The movement was supposed to be voluntary, but in the early 1970s it is estimated that more than 1 million people were resettled by force.

Many observers believe that the *ujamaa* villages succeeded in improving education and health care for rural people over the past 15 years. Food production, however, suffered from the failure of fertilizer and other inputs to reach farmers at the right time and in sufficient quantity, partly from bureaucratic inefficiency, partly from lack of government financial resources and other problems frequently found in centrally controlled agriculture. Also, low prices offered farmers worked as a disincentive to produce beyond the level for household consumption.

In recent years, the Tanzanian government, and former President Nyerere, have admitted that the *ujamaa* policy did not have the results intended. In many cases, farmers have reverted to individual farming practices, and the attempts at cooperative and collective farming have been abandoned.

Responding both to declines in the amount of marketed produce from farmers and pressures from aid agencies, the government began to significantly increase producer prices in the mid-1980s. But this needed reform has also entailed social costs. Contrary to expectations, increases in both agricultural surpluses and cash incomes of farmers were accompanied by increases in child malnutrition. Careful study within a project supported by UNICEF and the World Health Organization (WHO) discovered why: With the increased demands placed on women, they simply did not have enough time to fully care for their children and themselves. When the opportunity to earn needed cash was presented, the poverty of households led to women working additional time in the fields. The result was that women had less time to care for and feed their young children, at a stage when they require frequent feeding for satisfactory growth. Weaning occurred earlier than normal, and young children were being fed only three times a day, sometimes less often. It was found that in the average rural woman's work day of 14 hours, only 14 minutes were available for child care.

Within the same project other, more hopeful results could also be seen. Overall, there was a reduction in underweight children from 62 percent to 40 percent between 1984 and 1988. The district also had the highest immunization rate in the country. Instrumental in the success of the project, and a key factor in sustaining the achievements, is the community-based monitoring of the health and nutritional status of young children and women. Although the financial costs of the project are relatively meager by U.S. standards ($20 per child per year), they do present difficulties for both local communities and the nation.

As Tanzania enters the 1990s many of the problems relating to nutritional well-being remain. For example, international prices for coffee remain low, which is good for U.S. and European consumers but bad for producers and their countries. The constraints on foreign exchange severely limit the ability of the government to invest in reducing hunger and poverty, even successful and tested community-based approaches. It is a dilemma with which Tanzanians, and many other Africans, are struggling.

Zaire

Zaire is a vast country, extremely wealthy in mineral and natural resources, and historically capable of producing substantial agricultural surpluses for local consumption and export. But the government systematically has neglected agriculture, health and job-creation initiatives. Roads, food markets and other basic infrastructure have disintegrated from official neglect and corruption. Zaire has been ruled by President Mobutu for 25 years, during which time he has acquired a personal wealth said to exceed $5 billion. During the same period, Zaire has been transformed from a major agricultural producing country to one in which an estimated 60 percent of urban food supplies are now imported.

Data on nutrition and health in Zaire are limited. A profile in 1978-79 of the area in and around the capital, Kinshasa, found 42 percent of children under five underweight for their age; 11 percent were wasted. Studies from other parts of Zaire suggest undernutrition rates between 55 percent and 65 percent. Wasting rates among children in parts of Bas Zaire province are higher than those recorded in four or five Sahel countries affected by drought and famine in 1973-74. The national infant mortality rate (IMR) is about 250 per 1,000 live births, although the official rate is 90. The higher rate is based on estimates that take into account recent economic hardships facing low-income people.

> "Our main interest is making sure that this big country, as big as all of Europe, does not fall to pieces, endangering the stability of all central and southern Africa."
> —*U.S. diplomat*

The nutritional status of women is partially reflected in the weight of the babies they deliver. A limited survey of hospital births in a region in western Zaire in 1985 found that 23 percent of children born had low birthweights. In several health centers that percentage increased in 1986.

Also, nutritional deficiencies are widespread. Anemia affects many young children, with 87 percent of infants and 61 percent of children more than 5 years said to be anemic in the Kabinda region. Goiter affects more than 50 percent of school-age children in the provinces of Kivu and Equateur, and rises to between 80 and 90 percent of children in other areas.

Although the survey evidence is lacking, reports from churches, university researchers and development workers point to extensive hunger among children and adults. An estimated 20 million people, in a population of 34 million, are regularly or occasionally hungry.

The economic conditions contributing to hunger have been exacerbated by rapid inflation and a series of international-backed austerity programs in recent years. Food prices were nearly 25 times higher in 1982 than in 1975, and urban wages have not kept pace.

In Zaire, poverty is pervasive and probably has deepened during the past five years. An estimated 80 percent of the rural population of 20 million are described as poor by UNICEF. More than two-thirds of the population lack adequate water facilities. In the mid-1980s, three-quarters of all people did not have access to basic health facilities.

Despite its substantial agricultural potential and relatively small population (average density is 14 persons per square mile), Zaire imported about 400,000 tons of food in 1989, equivalent to 40 percent of marketed production within the country. The government's agricultural budget was $4 million in 1988, one half of one percent of total government spending. Support for small-scale farmers is provided by various international aid projects, but the government has failed to sustain those efforts once outside support is finished. Instead, resources for rural agriculture are systematically diverted to the estates of the political and bureaucratic leadership. President Mobutu's livestock estates have been stocked with cattle from Europe and sheep flown in from Argentina. Local government officials and traders underquote agricultural prices to farmers and expropriate the cash surpluses for themselves.

The internal neglect and exploitation is compounded by the country's international position. Low commodity prices for major mineral exports like copper, together with declining agricultural exports have contributed to a debt of about $8 billion. While aid donors are providing funds for rural development, health and education, a major share of loans from international financial agencies and grants from development agencies have sought to boost the country's exports to generate the foreign exchange needed to sustain debt repayments. However, many financial and development experts privately admit that President Mobutu and his followers are masters at manipulating the austerity agreements to assure that they do not suffer from the economic contractions linked with continuing international lending.

Under International Monetary Fund (IMF) and World Bank directed austerity programs in the 1980s, food, job and social welfare conditions deteriorated markedly for low- and middle-income people. The internationally-backed reforms included increases in prices paid to producers for agricultural crops, but the initiative has had mixed results in terms of hunger conditions. A 1987 review by the U.S. Agency for International Development (USAID) of policy reform found that women, who account for more than 70 percent of agricultural sales, were selling more, but at the expense of having less food for their own (and presumably their children's) consumption.

The elite of Zaire have been able to resist, and often violently repress, internal dissent against societal inequalities with the help of external agencies and governments, notably the United States. During the decade of the 1980s, the United States provided more than $50 million in military aid to Zaire, although the country does not face any external threat.

The U.S. military has carried on practice maneuvers in Zaire, and has used an isolated air base to ship arms to the Angolan anti-government forces. The military aid to the Angolan rebels has placed the United States and Zaire in alliance with South Africa, which directed and equipped the rebel force throughout the 1980s. Zaire trades heavily with South Africa, thereby complicating the process of isolating that country in the effort to end apartheid. To help the Zaire government remain in power, the United States is reported to have pressured the IMF to ease its lending conditions to that country, thereby facilitating the flow of cash into (and out of) Zaire.

Early in 1990 Mobutu relaxed restrictions on political activity. Many of his supporters have resisted the move, but the popular disenchantment with two decades of repression and economic stagnation may override the status quo. For the past decade, people have worked to build informal networks that can meet their food and other needs. In Kivu province, the Catholic church has supported efforts by market women to organize to protect their interests from corrupt local officials. The potential for food security for all people exists in Zaire. The political and economic changes occurring below the surface offer the strongest hope for achieving that potential.

South Africa

South Africa's system of apartheid includes economic and political structures designed both to economically exploit and to legally discriminate on racial criteria. Within this system the highest rates of hunger are found in the indigenous African population. The South African government has officially ignored or suppressed evidence of hunger and other inequalities. Thus, data which might offer a picture of hunger trends are unavailable, except for

Southern Africa: War-Related Deaths 1980-88

COUNTRY	INFANTS/YOUNG CHILDREN	ALL DEATHS
MOZAMBIQUE	494,000	900,000
ANGOLA	331,000	500,000
ZAMBIA	50,000	—
TANZANIA	25,000	—
MALAWI	25,000	—
ZIMBABWE	—	500
LESOTHO	—	500
SWAZILAND	—	250
BOTSWANA	—	50
TOTAL	**925,000**	

Sources: UNICEF, *Children on the Front Line* privately organized studies. One of those studies, carried out in the mid-1980s, looked at the health and nutrition implications of apartheid. This study has provided us with the most current and reliable data.

During the decade of the 1980s, hunger conditions worsened for poor African people and their children. Overall, about one-third of (about 4 million) African, Colored (the term for mixed race people) and Asian children under 14 are underweight and stunted for their age.

Researchers suggest that the levels of hunger in rural areas (where about two-thirds of the African population lives) have remained unchanged or have increased during the past half century. A mid-1987 survey of rural villages found that 51 percent of children suffered from severe degrees of stunting. In some of the "homelands" (overcrowded rural areas designated by the government for African occupation) undernutrition affects 80 percent of the children. Other, more general studies of rural children

CASE STUDY

Militarization and Hunger in Mozambique

Hunger is itself a form of violence. In Mozambique hunger is also a product of violence. Since 1980 South Africa has conducted a military and economic war against Mozambique—as it has against every other country in southern Africa. As the decade of the 1990s begins with improved prospects for peace and the reorientation of resources toward human needs, the costs of war offer a stark reminder to the people of Mozambique—a reminder of the human losses sustained through violence and militarism:

- 900,000 people have died in the country from direct military action or through indirect results of the war;
- 500,000 children under five have died as a result of the war;
- 1,000,000 people have become refugees;
- 8.7 million people—half the total population—have become so affected by the war as to be totally or nearly dependent upon external food assistance.

Against this background, more than half of all young children in Mozambique are malnourished to some degree. Low birthweights, indicating poor maternal nutrition, occur among 20 percent of newborns nationally and among 27 percent in some provincial hospitals. In the most war-affected areas, wasting is found in 13 percent of the young children, and the infant mortality rate (IMR) stands between 325 and 375, among the world's worst rates. Compared with the national IMR average of 130 (already very high), this means at least 200 more infant deaths per 1,000 births than if peace prevailed.

For four centuries, Mozambique was a colonial outpost of the Portuguese, providing them slaves and agricultural products. Late in the 19th century Portugal encouraged the emigration of people to its colonies; by the time Mozambique won independence in 1975, a quarter million Portuguese lived there. The colonial economy was organized to serve Portuguese needs. Mozambicans were expected to produce cotton, tea, cashew nuts and other cash crops for the colonial market, but social services were nearly nonexistent. At independence, in this country the size of California, Oregon and Washington combined, 93 percent of the population was illiterate and 70 percent of the people had no health care. Rural poverty was extensive, and reflected the colonial policy of forcing men to leave their homes to gain waged work in the commercial agricultural and industrial sectors of the colony and South Africa. Cash remittances by Mozambicans who worked in South Africa were held and taxed by the Portuguese as a source of colonial revenue.

Following a decade-long military struggle to gain their freedom from Portugal, the new Mozambique government set about to develop social policies and programs to alter the exploitation of the earlier era. Health and education expenditures were nearly four times higher in 1983 than in 1975, the year of independence. Further, the process of development was based on a political system in which policies were designed not simply to provide social services, but to encourage people at the local level to become involved in creating and running such services. Between 1975 and 1980, the IMR began to have found that in the early 1980s, 43 percent of rural Africans between 1 and 5 were underweight for their age, as were 28 percent of urban African children and 49 percent of urban Colored children in that age range.

Stunting and underweight are more prevalent among rural than urban adult Africans. One quarter of rural males are estimated to be underweight. Wasting has been recorded among the rural elderly, many of whom are expelled from urban areas after their working lives are finished. Obesity is a problem among urban women whose diet is largely made up of less expensive foods containing carbohydrates and fats.

While apartheid is used as a system of racial discrimination and control, apartheid also uses racial criteria for economic exploitation, and to maintain the inequalities which enable most Whites to live in general luxury while most Africans live in poverty. The consequences of these inequalities are felt in all sectors of the economy, especially

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decrease, primary school enrollment and literacy rates tripled, and new facilities were created.

Similar improvements were not readily reflected in agriculture, however. Government resources were focused on state-owned and operated farms which, for the most part, were expensive and not highly productive. Small-scale farmers were neglected, but by the early 1980s their political protests were forcing a re-prioritization of national policies. Greater government support was promised for small-scale farmers and cooperatives, with more attention to improving technologies that farmers could effectively use and control. While those policies are now in place, implementation has been undermined by the widespread disruption of agriculture by the South African war.

The prospect of fully independent countries pursuing policies designed to break the mold of colonialism was threatening to South Africa. The independence of Zimbabwe in 1980, with a government committed to aggressive social and economic change, became the point at which South Africa began a major and sustained effort to destabilize and disrupt the independent states of southern Africa. Thereby South African economic and political control was maintained in the region. Mozambique and Angola have faced the greatest brunt of South Africa's aggression, but every country in the region has been subject to intervention.

South Africa has had two major goals: to discredit the efforts of self-rule by the independent states of southern Africa, thereby providing an excuse to maintain white domination within; and to retain economic control over the region, its mineral resources, transportation networks and markets. The U.N.'s Economic Commission for Africa has argued that by destroying "the transport routes, the economy, the civil society and the state's ability to serve the citizens of Mozambique," South Africa felt it could achieve both goals.

The tool of South African aggression has been a military force known as the Mozambique National Resistance, or more commonly, RENAMO. Initially created by the White government of pre-independence Zimbabwe to subvert the liberation movement it faced, RENAMO was taken over in 1980 by the South African military. Since then, RENAMO has been equipped and directed by South Africa as a rebel force. RENAMO's tactics have been to terrorize the civilian population, prevent normal economic activities, and disrupt the economic base of Mozambique. RENAMO's methods have been particularly brutal: educated leaders in local communities are targeted to be killed or maimed; children are abducted and forced into the terrorist service; hundreds of schools and health centers have been destroyed; and food relief convoys have been regularly attacked. The U.S. State Department in 1987 said that RENAMO was responsible for killing 100,000 civilians in the previous several years. A UNICEF study placed the number of deaths from military action and indirect social and economic destabilization at 900,000 between 1980 and 1988.

Especially in terms of hunger, RENAMO's tactics have been designed to drive people off their land and prevent either cash or food crop production from occurring. Agricultural production has suffered. Reports from Mozambique regularly refer to the difficulties faced by peasants in clearing fields, planting and harvesting crops in the face of constant threat of attack. The government's efforts to re-orient agricultural policy away from state farms toward cooperatives and peasant production have been severely hampered.

RENAMO terrorism peaked in the mid-1980s, declined in intensity for a period and resumed in late 1980. Between early 1987 and 1990 estimates of the number of people

Continued on next page

in land ownership, employment and income. The inequalities in each sector contribute to the hunger and poverty that permeates the society, as seen in the differentiation in income and infant mortality rates (IMR).

Laws have existed since the turn of the 20th century in South Africa that define land ownership on racial grounds. Whites own 87 percent of the land, and between 1960 and 1984 three- and a-half million Africans were removed from townships and White farms to create new White areas. Africans are legally assigned to a "homeland," areas analogous to Native American reservations. These homelands make up 13 percent of the total land area of South Africa. About 12.5 million Africans live in these areas. The land is badly overcrowded and overworked so that only 30 percent of the food consumed in the homelands is produced there.

The average size of a farm owned by a White South African is more than 1,100 hectares. Most White-owned farms are heavily subsidized by the government, and farmers receive a variety of support services. Those subsidies are

Continued from previous page

affected by the war steadily increased, from about 5.7 million people at risk in February 1987 to nearly 7.1 million in October 1989. One million people have fled the country. One half million people are totally inaccessible to any relief program.

Between 1980 and 1985 economic production dramatically fell: real output fell by 37 percent, and 1985 export earnings (mostly from agricultural products) were less than one-third of those of 1980. Food was the major import, almost all in the form of food aid. In a distortion of the nation's established priorities, about 40 percent of government expenditure went for defense in the late 1980s; social spending was cut as a result, and per capita health expenditures collapsed to a level below that of 1975.

The precarious economic situation caused the government to join the World Bank and International Monetary Fund in 1987. Mozambique initially avoided these international lending agencies. An outcome of initial loans from these agencies was an Economic Recovery Program (ERP), intended to reduce government expenses and to stimulate the Mozambican economy. Among other things, the ERP seeks to boost agricultural production by small-scale farmers, while bringing consumer food prices into line with import prices. It is difficult to measure the impact of policies on agriculture, given that the war situation continues to limit the productive capacity of most rural people. For consumers, however, the impact has been hard. Food subsidies were removed in 1988, ending the social policy of guaranteeing accessible prices on basic food items for urban people. Most urban Mozambicans, including tens of thousands of people displaced by the war and now living in urban areas, find it increasingly hard to meet their food needs because of high food prices. Most people have more than one job and rely upon a network of informal contacts to raise money or find additional food.

Government distribution programs in urban areas are extensive. For example, a food rationing system exists in place of former subsidies, but the ration system does not reach everyone in need. Also contributing to the difficulties of food accessibility and food security are the inadequate and often delayed deliveries of emergency food aid by European, United States and international agencies. Food aid pledges in 1989-90 are only two-thirds of estimated need (based on a minimal diet), and actual deliveries are less than half of need.

Another outcome of the ERP has been a narrowing of accessibility to health facilities. User fees for health services were increased in order to raise government revenues. However, the financial constraints on most people limit their ability to use the health and related services that are available. For example, it is estimated that hospital and clinic attendance declined as much as 80 percent during 1987 and 1988. Malnutrition rates are likely to have increased in the same period.

Despite these massive constraints, there are signs of hope within Mozambique. The national and popular commitment to social changes that will reduce hunger and poverty remains. This is particularly noticeable in the Green Zone cooperatives around the capital. The Green Zones are intensive farming areas where primarily vegetables are produced. The cooperatives that operate in the Green Zones largely began and remain under the control of women. They produce substantial food for urban households and have received the financial support of the government and many international organizations to expand production. The success of the Green Zones has encouraged the government to emulate the cooperatives around other urban centers. But most importantly, the Green Zones have provided food while expanding the confidence of women as they demonstrate their contributions to their country's development. ■

crucial to the White system of domination, as about half of the 60,000 White-owned farms are not financially viable, but are supported in order to retain a White presence on the land. In addition, conditions for African workers on White-owned farms are particularly odious. Seventeen hour days, sub-subsistence wages, and the use of child and prison labor combine to keep production costs down. Undernutrition is widespread among workers, and their children often are taken out of school to work in the fields.

External pressure from the sanctions movement and lack of confidence among transnational businesses in maintaining profits, as well as high military expenditures and African initiatives to overthrow the system, have all contributed to a deteriorating economy. The burden of these constraints has fallen heavily on workers. Unemployment became steadily worse for African, Asian and Colored people during the 1980s. In 1981 an estimated 21 percent of all economically active people were unemployed. In major urban areas that rate climbed to between 60 and 70 percent in mid-1988. The informal economy of small-scale trade, repair, manufacturing and services provides the means for people to survive.

Wage rates also favor Whites. In 1980 African wages in agriculture were 7 percent those of Whites; in manufacturing, African wages averaged 23 percent of White wages. Pressures by Africans during the 1980s contributed to a slight upward trend in their real wages. Nonetheless, in 1985 nearly one million African wage earners working in trade and mining received salaries below the official "minimum living level." Even so, people employed in the more structured and industrial sectors of the economy have higher incomes than people working in agriculture, domestic service or the informal economy.

In domestic service, where women predominate and are often single heads of households, wages are 50 to 75 percent below minimum standards. White employers justify sub-subsistence wages by providing the employee with meals, yet ignoring the women's family obligations; usually domestics must live apart from their families.

The release of Nelson Mandela from prison in February 1990 has given new impetus to the African efforts to end the apartheid political and economic system. The strength of African unions provides economic power to backup the political initiatives of the African National Congress and other organizations. At one level, the White government has opened a dialogue with African leadership, but continues its violent repression of protests and retains the basic structures of apartheid which induce hunger.

The violence of hunger and poverty within South Africa has been extended into neighboring countries. For 70 years South Africa ruled Namibia where patterns of hunger followed those within South Africa itself. Since 1975, and particularly during the 1980s, South Africa has used its military against neighboring states. South Africa's strategy has been to destabilize the political and economic integrity of these countries, to discredit African rule, and to assert control over the sub-region in order to manage for South African benefit the pace and direction of change. Close to 10 million people in the region have had their food security profoundly disrupted by South Africa's actions.

Angola

More than half of Angola's population of 10 million people are vulnerable to hunger. The major cause is the widespread disruption of the economy—of people's lives and their ability to produce food—resulting from 25 years of warfare. For more than 10 years Angolans fought Portuguese colonialism. On the day independence was achieved in November 1975, South African troops invaded Angola, remaining in the country or poised to re-invade, until 1989 when a negotiated settlement linked to Namibian independence was achieved. Yet into 1990, an anti-government, terrorist force (equipped, supported and directed by South Africa and backed with arms by the United States) holds back the achievement of peace and food security.

A 1989 U.N. report suggests that 3.4 million people (one third of the population) are displaced from their homes, or so affected that they can not earn an adequate living or produce enough food. Early in 1990 the Angolan government estimated that 2.6 million people were displaced, dependent upon relief food or affected by drought conditions.

The U.N. report notes the impact of South Africa's campaign of intervention in Angola resulted in the deaths of as many as 90,000 adults and older children from starvation, undernutrition and diseases. UNICEF has estimated that 331,000 children under five died between 1980 and 1988 as a result of the impact of war. Health services have been badly disrupted, making data even more fragmentary. Surveys between 1986 and 1988 found 20 percent of hospital births were of underweight infants, indicating the serious nutritional conditions of pregnant women. An estimated 45 percent of children are malnourished.

Exacerbating the effects of war, drought in 1989 in central and southern parts of the country resulted in the loss of 60 to 70 percent of the crop. Flooding in two northern provinces in mid-1989 left an estimated 140,000 people homeless and caused heavy crop losses.

Drought continued into 1990, seriously reducing harvests and decimating cattle herds in southern Angola. In mid-1990 the Food and Agriculture Organization (FAO) reported that drought, warfare and the collapse of marketing infrastructure had reduced the year's grain harvest to less than 40 percent of domestic food needs. In the south, "malnutrition and starvation-related diseases are evident," FAO noted. In the central parts of the country, terrorist activities prevent needed relief efforts from reaching people, and widespread hunger is reported.

Relief efforts have been inadequate for the magnitude of the situation. In 1989 food aid deliveries were but one-fifth of what had been pledged by international donors. International pledges as of mid-1990 were just over one-third of need, but no deliveries had yet reached Angola.

All substantive efforts to build the economy, following three hundred years of colonial rule, have been hampered by the war. At independence, the government gave high priority to preventive health care. However, the diversion of public funds into defense, and the destruction of health, education and water facilities by the South African army and anti-government forces, set back those initial programs. Angola tried to fill the gap left by Portuguese settlers who left after independence with active state intervention in agricultural production. Few large farms have assured regular agricultural output; the state controlled marketing system has not done any better in assisting most small-scale farmers. Plans to reform the agricultural sector, to give greater support and incentives to small-scale farmers, and improve markets and prices, have been deferred because of the war.

Angola has the potential to alleviate hunger and become a major economic power in southern Africa. Oil provides substantial foreign exchange, and the mineral and agricultural resources can be applied to meeting human needs. That potential, however, is constrained by the heavy financial and human costs of warfare. Hunger for millions of Angolans will last until peace is achieved —and for years beyond, as the country tries to rebuild.

Zimbabwe

At independence in 1980, Zimbabweans faced extensive hunger. Food deprivation had been used as a weapon by the colonial government against rural people. Surveys showed levels of undernutrition ranging from 30 to 65 percent of the population. Between 15 and 42 percent of children attending "Well Baby Clinics" were severely underweight for their age. The situation was particularly acute in rural areas and among families of workers on commercial farms owned by European colonialists.

In the years since independence, both government and local organizations have worked hard to provide health services and education on an equitable basis, to increase wages and living standards, and to reduce hunger. The percentage of hungry people has declined during the past decade, probably by half. Even so, an estimated 2 million people (in a population of 9.3 million) are hungry and another 1.5 million are vulnerable to periodic hunger due to poverty, land scarcity, inadequate incomes and seasonal variations in food availability.

A 1988 survey of children between the ages of 3 and 59 months found 29 percent stunted. A 1987 survey, larger and more extensive than the 1988 sample, found 17 percent of all children 12 to 59 months with very low weight for their age. There were major variations from this national average, notably in the western part of the country where 20 to 30 percent of children 12 to 59 months were underweight.

Undernutrition also significantly affects women. Many women are reported anemic. The nutritional condition of women is seen in the prevalence of low-birth weights for infants. Birthweight statistics indicate, however, that there have been improvements in the nutritional status of women. In 1982, 15 percent of all newborns had low birthweight; a 1987 health survey gave a figure of just over 6 percent of infants with low birthweights.

Half of the children of parents who work on the 4,500 large commercial farms (which remain largely White-owned) are underweight for their ages—a situation notorious in the colonial period which has improved but not ended. Despite being the immediate producers of much of Zimbabwe's commercial crops, the workers on these farms are poorly paid, and health and living conditions are bad. Wages for these workers were increased shortly after independence, but they still receive only one-third the wages of workers in mining or industry or even less. A 1981-82 survey in one of the leading commercial farming districts found that children on commercial farms were four times as likely to be severely underweight, and three times as likely to be moderately underweight, as children in other rural areas.

Zimbabwe produces substantial surpluses of maize and other cash crops due to hard-working peasant farmers and supportive national policies. At the end of the marketing season in 1989, small-scale farmers and small commercial operations had accounted for two-thirds of all official corn sales; 10 years earlier the proportion was less than 10 percent. Early in 1990 the country had an exportable surplus of 400,000 tons of corn, after providing for internal needs and expanding the grain reserve. Zimbabwe has provided, and probably will continue to provide, both food aid and commercial sales to neighboring countries. International agencies have supported Zimbabwe's agricultural production by purchasing some of the surplus for redistribution within Africa.

These achievements in food production are important, but the benefits are not shared evenly across the population. Between 12 and 25 percent of small-scale farm households do not produce enough grain to meet their needs. Access to productive land is a key variable. The 4,500 large-scale commercial farmers hold 40 percent of the land and more than half of the most productive land. So-called Communal Lands (the areas to which Africans were assigned by white colonialists and in which 4.3 million people still live) represent 42 percent of the land area, but less than 25 percent of the best land. A government plan to purchase former commercial farms and resettle 162,000 African households has not been fulfilled. About 38,000 households had been resettled by the end of 1986, and funds for purchasing additional land were extremely limited.

Only one-third of the communal land farmers sell most of the corn actually marketed by all small-scale farmers. Other communal land farmers find much of the land overcrowded, overgrazed or located in regions of poor soil and low or problematic rainfall. One of the major reasons for continued hunger in rural Zimbabwe is that rural households do not have enough good land to produce crops for both household consumption and sale. It is estimated that more than half the households on communal lands grow only 60 to 80 percent of their corn requirements and have to purchase the rest—or go without. Between half and three-quarters of rural households have a family member who works in the cities or mines and sends home part of his or her salary to provide the needed cash.

There are other constraints for rural households. An estimated 40 percent of rural households are headed by women. The figure is not uncommon for much of Africa, but this situation places a major strain on women to provide the labor for crop production and household maintenance. In many cases, food production or child care suffers. Further, women are generally less well nourished than men. The average rural woman takes only two meals a day while men receive three. Finally, the national policy to provide improved prices for agricultural products has had a negative effect on poorer, more vulnerable households. To gain cash, many farming households are switching production to crops for which higher prices are offered (such as corn, sunflower and cotton) and away from more nutritious food crops such as sorghum, millet and peanuts. Often women have no say in these decisions nor in the use of the cash these other crops earn, although when time and land is available, women produce some crops whose sales they control.

South African destabilization has had both direct and indirect economic costs for Zimbabwe. Between 1980 and 1988 Zimbabwe lost an estimated $150-$200 million through direct sabotage of equipment and infrastructure. The greater costs, however, have been indirect, arising primarily from the South African-backed and directed war in Mozambique. Between 1980 and 1988, transportation costs to Zimbabwe are estimated to have been between $700 and $800 million above what would normally have been spent. Excess defense costs, to protect transportation routes running from Mozambique ports to Zimbabwe and to support Mozambique militarily, are said to be $300 million in 1988, or about $3 billion between 1980 and 1988. These added costs have contributed to a budget deficit. At the same time, inflation is undermining everyone's income, but especially that of low-income consumers. Inflation is also discouraging productive investment. Also, the land reform program has stalled because money has been diverted into defense rather than earmarked for further purchases of commercial farms. The policies of greater food security, equity and improved living standards for which Zimbabweans struggled during the independence movement are now being distorted by South Africa's wars in the region.

Malawi

Malawi presents the irony of a country that, at a national level, is self-sufficient in food, but one in which more than half of all young children are chronically hungry.

The most recent survey data, covering one district during a three year period in the mid-1980s, suggests that the extent of chronic undernutrition is increasing. More than half of all two-year old children were found stunted. Another small survey found more than 70 percent of children under 18 years to be stunted.

More than 90 percent of Malawi's population of 9 million is rural. Almost half of the adult population receives too few calories for normal activity and good health. Thus, between 4 and 5 million people are regularly hungry in Malawi. In addition, 800,000 Mozambican refugees are living in difficult conditions in Malawi, and their food needs are not adequately meet.

Anemia is a chronic problem affecting both men and women, and vitamin A deficiency is a major health problem in children under six. A quarter of the population suffer from goiter.

Most agriculture depends upon timely and adequate rainfall between October and March. In 1989 Malawi experienced a record corn harvest and has built up a substantial strategic grain reserve against likely shortfalls in years when the weather is less favorable. Exports of tobacco, tea, sugar, peanuts and cotton are the major sources of foreign exchange for the country, and agricultural and development assistance policies have been designed to sustain the agricultural export sector. Other cash crops, notably corn, which also is the major staple, are taxed. The money is used to improve production in the export sector.

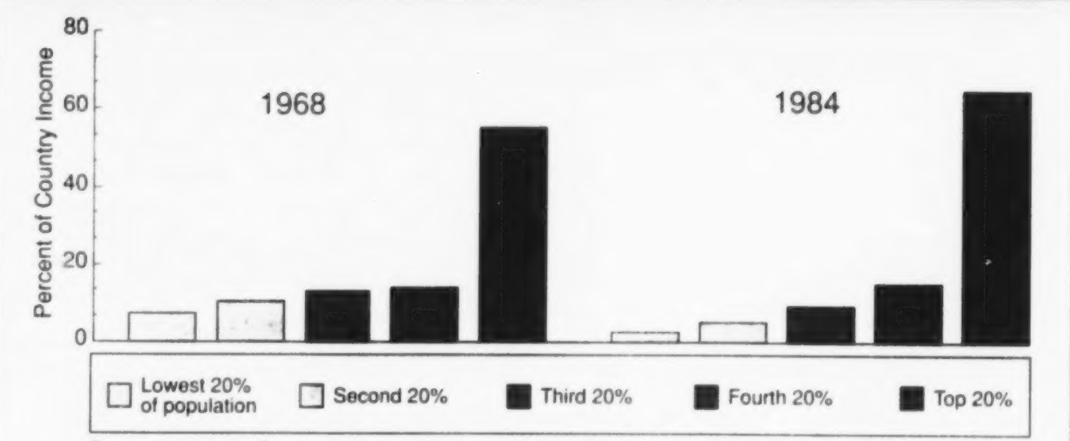
The country faces extensive undernutrition despite high levels of agricultural production. The major reason is the complex situation faced by small-scale farming households, particularly the women in those households, as they produce crops for the market economy. The household need for cash often takes precedence in deciding where to allocate production efforts. Crops for home consumption suffer, while profits from the marked crops may not feed the household adequately along with its other purchases.

A local study of two villages in Malawi demonstrates three interrelated factors. First, the range of food varieties available for household consumption (grains, legumes, tubers, vegetables and fruits) become more narrow as households focus on cash crops. Second, households that emphasize market sales tend to eat somewhat less than households that grow basic food stuffs. The food kept back from sale, plus purchased food, tends to be less than the amount available to food crop households. Third, labor demands on women in both food and cash crop households are heavy, twice to three times that of men. On farms that emphasize cash crops, women (perhaps under coercion from men) tend to shift their time away from crops for home production toward crops for market production; this shift often contributes to food deficits within households as well as the local community.

Except for larger farming households, there is neither enough labor or land available to ensure adequate crop production for food and cash, nor enough cash available to hire additional labor or purchase extra food.

The second major factor explaining hunger in Malawi is the inequalities in land and income distribution. Most farms are small, so that food and cash needs conflict. Eighty-five percent of all households are small-scale farmers. Fifty-five percent of smallholders have farms of 1 hectare or less; 5 percent have farms of 3 hectares or more.

Malawi: Income Distribution 1968 and 1984



Source: International Fund for Agricultural Development, World Bank

Surveys conducted in the late 1960s found that farms smaller than 0.8 hectares could, on average, produce about half of a household's annual food needs. Farms between 0.8 and 1.5 hectares might barely produce enough food for annual needs, but little for the market. Population increases since 1970 have put further pressure on poorer and smaller households. In those households, farm size has decreased. The smaller farms remain unable to supply sufficient output for nutritional needs and/or substantive sale. To gain cash, many people on small farms seek employment in the estate sector of the agricultural economy or hire out to larger farmers locally.

The estates are at the other end of the agricultural spectrum. The 1,100 or so estates, controlling a fifth of all cultivated land, are highly commercial and have been favored with government subsidies. A number of senior government workers own estates. Real wages have declined for workers on estates, and the nutritional levels of children (and probably adults) on estates are the lowest in Malawi.

Inequalities of income distribution grew worse between 1968 to 1985. The wealthiest 5 percent of the population now controls 42 percent of the income; the poorest 40 percent of the population controls 9.5 percent of the income. Incomes of the poorest people worsened during the period. More than 80 percent of the population have incomes of $400 or less per year and thus share a common poverty.

The structure of Malawian agriculture reflects the dilemma facing many countries with rural-based economies: achieving a balance between food security for all and the state's need for income. Malawi has intentionally favored the agricultural export and manufacturing sectors, trusting that smallholders will provide for themselves. While small-scale farmers in Malawi have the skills and abilities to produce sufficient food to reduce hunger, policy imbalance that favors wealthier groups has undermined food security for most people. ■

Latin America and the Caribbean

Latin America spent the 1980s struggling to recover from the international debt crisis. Throughout Latin America, low-income groups refer to the 1980s as a lost decade.

Average income per capita in the region dropped drastically in the first years of the crisis and has yet to return to the level of 1980. Poverty and hunger in 1990 are at higher levels than they were in 1980.

The World Bank estimates that there are 70 million people in poverty in Latin America and the Caribbean, of which 50 million are in extreme poverty. Rural poverty is particularly acute in Central America, northeast Brazil and the Andean countries. Poverty and hunger are closely linked with people's access to land, and some of the greatest inequalities in land holdings in the world are found in Latin America. Half of Latin America's people live in cities, and about 30 percent of urban dwellers are poor.

Throughout the 1960s and 1970s, most Latin American countries experienced economic growth, some of which trickled down to low-income people. The cities offered jobs and urban services, so there was massive urban migration despite the crowding and squalor of the slums. A significant middle class emerged, but wide disparities in income and wealth persisted. Cuba, Costa Rica and Colombia made special efforts and did better than the rest of the continent in reducing poverty and hunger.

In the 1970s, most Latin American countries borrowed heavily from commercial banks. Interest rates were not much higher than inflation, and the banks were glad to lend. In retrospect, it is clear that much of the money was not used well. Then, prolonged global recession depressed Latin America's export sales. To some extent, the recession was engineered by the United States and other industrial countries in order to bring down inflation. And mainly because of the U.S. fiscal deficit, interest rates soared to unprecedented levels. Servicing debt became difficult everywhere, including the United States where many farmers were forced into bankruptcy. When Mexico stopped payments on its debt in 1982, commercial banks suddenly became less willing to lend to developing countries generally. Virtually all of Latin America was thrown into financial crisis.

One benefit of the crisis was the exit of nearly all of the military governments which had dominated Latin America in the 1970s. The Latin American governments of the 1980s, most of them democracies, have tried various coping strategies, but even the most successful of these efforts have achieved modest and still vulnerable results. Twenty to thirty percent of government revenue goes into debt service.

Wealthy groups have been able to keep money abroad and thus protect themselves. But most Latin Americans have been battered by economic forces beyond their control. Poor people are especially vulnerable, and the urban poor have been particularly hard-hit by unemployment and cut-backs in government services and subsidies.

Some of the policies adopted to cope with the crisis have entailed additional social costs. In Brazil, for example, social services were cut, and an export promotion drive shifted land from local food crops to export crops. These policies added to the problems which a tightened job market and inflation entailed for poor people.

As the crisis dragged on, some governments made special efforts to deal with its social costs. Chile, Nicaragua and Jamaica are often recognized for programs designed to protect poor people from the crisis, but these programs had limited impact.

The percentage of children in school has continued to go up in the 1980s. Infant mortality has continued to decline. This may suggest that many families and some governments have been struggling with some success to keep economic distress from impinging on basic social needs.

For millions of Latin Americans, survival is a daily dilemma. Yet people have responded with ingenuity. Microbusinesses have proliferated. Working women in shantytowns in Peru have created common kitchens to increase household food security. Some such local initiatives have been supported with sensitive outside assistance.

In Central America, war and high levels of military expenditure further complicate economic and social problems.

There are no positive signs for strong reductions in hunger and vulnerability to hunger in Latin America in the 1990s. Progress would depend mainly on three factors. First, peaceful resolution of conflict is fundamental for progress in Central America. Second, industrial country governments need to take steps to reduce the overhang of international debt. Third, Latin America's democracies need to adopt and maintain policies that are responsive to the poor and sustainable over the long term.

Chile

In taking power in 1973, the military government under Gen. Augusto Pinochet introduced a number of economic policies that were a radical departure from the development approaches of previous leaders. The changes, which emphasized privatization and foreign investment, have generally led to steady growth (with the exception of an intense recession in the early 1980s). Many claim that this economic achievement, known as the "Chilean miracle," contributes to the more stable economy found in Chile today than in its South American neighbors. Yet some critics claim that this growth stands in marked contrast to persistent poverty and a widening gap in incomes between rich and poor people. An estimated 40 percent of the people live in poverty, some bypassed by the government's policies, others are poor because of those policies.

"It's certain that we have more exports and explosive growth and development.... But the gains generated by the economy have not been gained in the social sector."
—Hernan Alvez, editor of El Sur

The Pinochet government maintained some social programs, notably child nutrition and an emergency employment program focused on very needy people. According to Chilean government statistics, the prevalence of underweight children less than six years of age fell from 16 percent in 1976 to just under 3 percent in 1986. Other sources say that the government weighing technique results in a 40 to 50 percent underestimation of undernutrition, so that the improvement has been less dramatic than official statistics indicate.

In the 1980s, there is evidence that vulnerability to hunger among pregnant and nursing women diminished. Improved hospital care resulted in reduced infant mortality, and supplemental feeding programs for lactating women improved. Hunger is more prevalent in rural than urban areas. Fifty-six percent of the rural population are classified as poor, and infant malnutrition is higher in rural areas. Infant and maternal mortality rates and malnutrition in children under six are higher in rural areas as well. Rural unemployment is also high, especially for landless laborers, making those households vulnerable to hunger.

"Though economic indicators have grown strongly, salaries and job security haven't improved much in real terms since 1973."
—Veronica Miranda, an analyst with the Concepcion Chamber of Production and Commerce in Chile

Like many indigenous people in Latin America, the Mapuche Indians are among the poorest of the rural poor, and historically have faced discrimination. The Mapuche number approximately one million, or one-tenth of the Chilean population. Under Pinochet the Mapuche were further impoverished by removal from their ancestral lands and resettlement on an area one-tenth the size.

Among urban dwellers, people who live in slums and shantytowns are most vulnerable to hunger. A 1987 study of 40,000 people living in five different shantytowns in Santiago, the capital, found that 80 percent of the families did not have enough to eat. Between 71 percent and 84 percent of the families had incomes so low that they were not able to buy minimum food requirements.

Hunger and poverty have long been associated with inequitable land distribution in Chile. In the mid-1960s, Chile had "one of the world's highest recorded levels of concentrated landownership." Land reforms were begun in 1964 and actively extended in 1970 under Salvador Allende's administration. Under Allende, the conditions of rural poor women and men improved since both temporary and permanent agricultural workers were allowed to become members of newly created collective farms.

These reforms were reversed by the military government which came to power in 1973. Nearly two-thirds of the expropriated land was either returned to its previous owners or auctioned off; another 30 percent was parceled out into smaller plots. The allocation of land once again excluded women, who began migrating to urban areas in search of work as domestic servants.

Because of land distribution changes, most agricultural workers were probably worse off in 1988 than they were 20 years earlier, prior to the land reform programs. Large farms are now estimated to control 25 percent to 30 percent of the total land area. Of the people forced off the land, many became agricultural day workers at subsistence or below subsistence wages. Reliance on temporary labor continues to increase on large farms: During 1986, seasonal workers provided more than 50 percent of labor utilized. Poor women play an important role in the temporary seasonal labor force, particularly in the fruit export industry, about 60 percent of which is exported to the United States. Seasonal employment creates unemployment for about five months of the year, and thus, an increased vulnerability to hunger.

Purchasing power for poor people declined in the last 15 years. Between 1981 and 1989, average real wages declined by 13 percent but people earning the minimum wage saw their real incomes decline by 57 percent. Food consumption among urban and rural poor people fell markedly. In 1988, 65 percent of the workers in the Concepcion region had salaries below the minimum considered necessary for basic family needs. Unfortunately, these official statistics may underrepresent the extent of hunger faced by the Chilean poor.

To survive, many poor people work within the government's minimal employment program; others gather wild foodstuffs or find work for the entire family, including children, in low-paying jobs.

At the same time, the gap between rich and poor people has increased. Between 1968 and 1985, the richest 20 percent of Chileans increased their share of the GNP from 47 percent to 60 percent. The share of the poorest decreased from 7.7 percent to 3.5 percent.

Some Chileans have fought hard to combat poverty and injustice. Under the sponsorship of the Catholic Church, shantytown residents have set up soup kitchens. Women are beginning to join rural labor unions in conjunction with their incorporation into the fruit industry labor force. The Mapuche have organized to defend and promote their culture and interests.

Poor people took part in massive demonstrations to protest unsatisfactory economic and living conditions from 1983 through 1986. In December 1989, Chileans voted in the first elections since 1973 and turned out Gen. Pinochet. It remains to be seen whether the new government, in the words of the new president, Mr. Patricio Aylwyn, will be able to "reconcile political democracy with economic progress and social justice."

Peru

Throughout the 1980s, nutritional indicators in Peru first showed signs of improvement, then reversed as the decade advanced. Debt, low commodity prices, internal economic problems, political insurgency and bad weather have contributed to hunger among at least 43 percent of

Drugs, Land and Hunger

Colombia refines 80 percent of all the cocaine which reaches the United States; Bolivia and Peru together produce as much as 90 percent of the coca exported from Latin America. So profitable is that drug that former Peruvian President Alan Garcia has said that "the only raw material that has increased in value [since 1980] is cocaine."

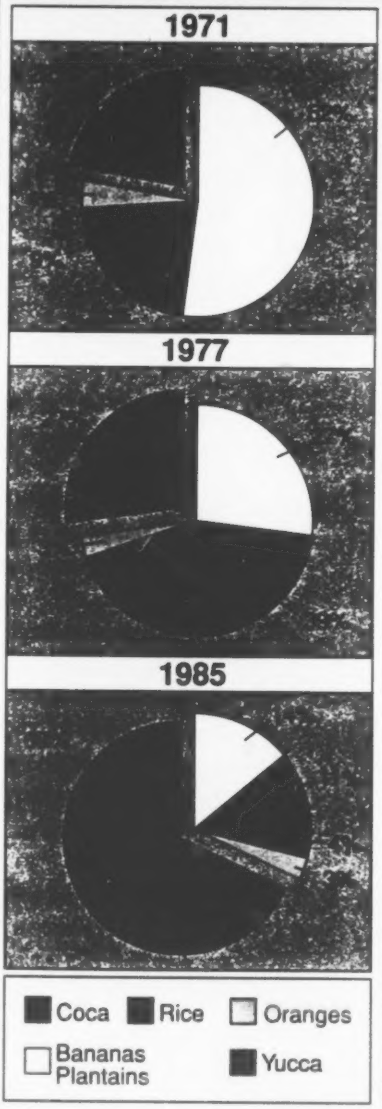
The linkage between drugs and hunger is indirect, but revolves around money. Drug exports from Peru alone are worth an estimated $600 million to $1 billion annually, yet the country lacks the foreign exchange to import food for emergency needs in 1990. In Bolivia peasant farmers have long grown coca and chewed its leaves for medicinal and social purposes. But the dramatic increase in international demand for cocaine has encouraged farmers to shift their cropping patterns, as the graphs show. Coca provides farmers up to 50 times the value of other crops. In Colombia and Bolivia, seasonal workers have moved into coca growing areas where work is steadier and better paying. While their incomes may have increased, the areas they left have experienced labor shortages and decreased food production.

In Colombia, an informal alliance of drug cartel members and large landowners has repeatedly used intimidation tactics and their wealth to expand their holdings. Thousands of small-scale landowners and low-income families have been forced to sell their land at greatly reduced prices. An investigation by the weekly news magazine *Semana* revealed that since 1984 the drug cartel has purchased 1 million hectares of land, nearly one twelfth of the country's productive farmland. Unofficial reports talk about declining food production in these areas.

The Colombian drug/large landowner combination has also used death squads to squelch demands for land and labor reform. In March 1988, for example, 22 union leaders were murdered in Uraba after seeking to improve working conditions on a banana plantation. In Peru, *Sendero Luminoso* (*Shining Path*) rebel movement is said to market drugs to dealers; profits go to buy arms to sustain a war that has taken 15,000 lives.

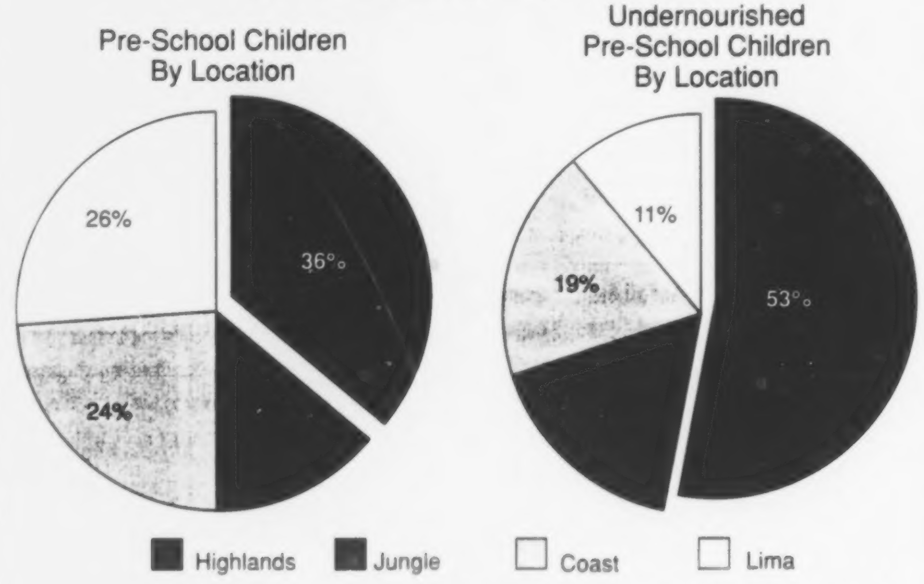
Efforts to reduce coca production have included military action, diplomacy and inducements to farmers to substitute other crops. The United States has committed $35 million in military aid in 1990 to Peru to fight drug trafficking and the rebel movement. Many small-scale farmers are anxious to find other cash crops, but to date no other crop provides the profits of coca. ■

Shifting Pattern of Land Use in Cochabamba, Bolivia



Peru: Distribution of Pre-School Children and Undernourished Children, 1984

In Peru, over half of the undernourished young children live in the highlands, where rural poverty is most extensive.



Source: *Food Policy*, November 1989, and Panoscope.

Peru's total population of 22 million.

Recent surveys found almost 40 percent of children under five stunted. About half of the country's estimated 9 million children under 16 years of age suffer some sort of undernutrition. Both of these figures are likely to have increased during the past two years, as economic conditions and harvests have dramatically worsened.

Peruvian social programs have been cut drastically in recent years, resulting in increased polio and tuberculosis outbreaks. Iodine deficiency diseases such as goiter and vitamin deficiencies continue to be major problems.

There was a dramatic decline in food security throughout the 1980s. In southern Peru, the rate of underweight children grew by 50 percent in the first four years of the decade. At the end of 1989 the Food and Agriculture Organization (FAO) reported that 2.5 million people receive basic food assistance from the government to compensate for economic losses suffered in recent years. In mid-1990 FAO reported that the 1990 food crop harvest would be 20 percent below the previous year, which was also below normal. Small-scale farming households are likely to suffer the most from reduced harvests, but urban customers will experience the shortage of rice and potato supplies, since the government lacks the foreign exchange necessary to meet urban food shortfalls with extra imports.

Hunger persists in all regions of Peru, both urban and rural, but has been most highly concentrated in rural areas, especially the highland areas of the Andes. Almost 60 percent of all undernourished children in Peru live in households that depend on agriculture for income or employment. Seasonal variations in food intake are notable. A recent study shows seasonal differences of almost 500 calories per day in adults and about 250 calories in children.

Changes in the Peruvian government during the last 10 to 15 years led some people to believe that the income and dietary disparities between the classes would lessen, particularly under populist Alan Garcia, who took office in 1985. Garcia limited payments on the foreign debt to 10 percent of annual exports; he also raised wages, froze consumer prices and created temporary jobs. These programs could not be sustained, however, and conditions deteriorated after 1986. For example, between January 1987 and December 1988, the child mortality rate (CMR) increased by two-thirds. The nutritional well-being of children in the shantytowns around Lima, the capital, declined in the same period.

Hyperinflation and economic recession have created conditions in which food security is more and more problematic for the majority of Peruvian people. In 1988, consumer prices rose 668 percent and real wages decreased 23 percent. Between January 1988 and January 1989, the cost of basic food needs for an average-sized family of five increased by 2000 percent. It was up almost another 1000 percent by September 1989. Families purchased both less food and less nutritious food.

Compounding Peru's economic and food security crises is the military insurgency by the *Shining Path* (*Sendero Luminoso*) which is dedicated to overthrowing the political and economic systems of the country. Some 15,000 people have been killed in the war and others have fled rural areas. Recently, the Shining Path has collaborated with local drug dealers to gain money for arms. Rebel attacks and government military build-up to counter the movement have been extremely costly.

One response to Peru's economic crisis was the creation of *comedores populares*, or communal kitchens which became popular in 1979 in Lima's shantytowns. The comedores allow families to pool their resources, often purchase foodstuffs directly from the producer, and prepare meals in large quantities at the lowest possible cost. Some comedores receive food donations from international donor agencies, the church, political parties, agricultural worker federations, and some from the central government. Others rely on the purchases of participating members. Groups of women take turns cooking. The system allows women to work and add to the household finances while assuring that food is available for the family. While this system has been successful, it currently reaches only a small percentage of hungry people.

The role of women in combating the hunger problem is an increasingly important one, but the economic problems of the country also limit the choices open to them. One Peruvian woman reflected on the situation:

> *Over the past two years, women have been participating more, because hunger is getting worse and worse. This forces women to search out alternatives....We can have our principles, but hunger is an urgent problem facing the people. We don't have an alternative to offer and unfortunately, people can't eat their principles.*

In June 1990 Peruvians elected a new government which promised to stabilize the economy, reduce corruption and improve conditions for poor people. The massive increase in hunger and poverty in recent years, and the collapse of the economy, the drought and war will be difficult for any government to overcome.

Ecuador

Since 1965, Ecuador has had an impressive economic growth rate of nearly 4 percent per year and has made substantial progress in achieving overall improvements in health and education. However, these favorable indicators hide the fact that since 1987 nearly a quarter of all Ecuadorians—more than 2.6 million people—suffered from hunger.

A 1988 Ecuadorian Ministry of Health survey found that 55 percent of all Ecuadorian children under five were underweight for their age, although most were moderately so. A third of the under five-year-olds were stunted.

About 18 percent of pregnant or nursing women suffer from undernourishment. Another indicator of women's poor nutritional status is that one in 10 of newborns are underweight. Women feed themselves last, and eat least, with anemia being a frequent complaint.

Hunger is concentrated in the Sierra (highland) region. Ironically, in 1964 an agrarian reform program focused on this region. The reforms were aimed at breaking landlords' feudal control of workers and improving the conditions of tenant farmers. However, critics claim that these reforms were more favorable toward landlords since they generally retained control of their land, while many tenants found themselves freed from oppressive legal arrangements but still had no access to land. Former tenants became wage laborers, dependent upon finding work which was offered at low wages.

Hunger in Ecuador is linked closely to the unstable economic conditions surrounding the oil boom of the 1970s. Oil revenues produced a period of rapid economic growth, supported with foreign loans. During this period of expansion, agricultural policies shifted to favor export-oriented cash crops, causing a decline in food production for the home market. Also contributing to the shift in cropping patterns was the growing wealth of the urban middle class during the oil boom, which raised the demand for meat and made meat production and dairy farming more profitable. Large farmers switched from bananas and rice to profitable export crops and premium dairy products such as cheese, unaffordable to low-income people.

In the early 1980s economic growth came to a halt as the international price of oil collapsed. Ecuador faced an economic crisis with its massive debt which had high social costs for lower income households. Fewer jobs were available, particularly in agriculture, industry and construction. As men lost jobs, more women entered the wage labor market to supplement household incomes. Women's

CASE STUDY

Wealth and Poverty in Brazil

Brazil covers almost half of South America, nearly 8.5 million square kilometers of land. The country has a racially diverse population of 141.4 million, 75 percent urban, and is the eighth largest economy in the world. Brazil is among the wealthier Third World countries, but hunger remains the daily reality for millions of Brazilian men, women and especially children—31 percent of children under 5 suffer from malnutrition.

Brazil does not suffer from an inability to grow or buy sufficient food. In fact, Brazil is a net agricultural exporter, and ranks first in the world in production of sugar cane, coffee and oranges, second in soybeans and cocoa, and third in corn. Agriculture employs 26 percent of the domestic labor force and brings in 30 to 40 percent of foreign exchange earnings. Because Brazil needs large amounts of foreign exchange to make payments on its foreign debt, export and industrial crops (particularly sugar) have received substantial government support, sometimes at the expense of the small-scale farmers who produce most of the domestic food.

Land is concentrated in the hands of a few. Large landholdings (over 100 hectares) represent only 10 percent of total farms, but occupy 80 percent of the arable land. Approximately 6 million Brazilians (14 percent of the rural population) are landless agricultural laborers, of which 4 million are migrant workers. Brazil also has one of the most unequal income distributions in the world: the poorest 40 percent of the population receives only 8 percent of personal income, while the richest 10 percent receives 47 percent. Whereas the average per-capita income in 1985 was U.S. $1,640, per capita income for the poorest 40 percent was U.S. $287 in the same year.

Lack of access to land to grow food, together with low incomes, often result in hunger: Urban dwellers and landless agricultural laborers on low salaries cannot afford to buy sufficient food, while small-scale farming households often cannot grow or buy enough to provide an adequate diet. Food consumption closely mirrors income inequities: A 1984 survey of consumption patterns in 1,023 Brazilian cities and towns found that of every 100 Brazilians, the eight richest purchased more goods and services than the other 92 combined, and the poorest 9 percent of the survey population purchased less than one half of one percent. Both poverty and landlessness in Brazil have consistently been correlated with higher infant mortality, greater incidence of malnutrition, lower birthweights and poor physical growth of children.

The "Brazilian Miracle"

Although inequalities in land and income are not new phenomena in Brazil, what is striking is their persistence in the wake of Brazil's post-World War II industrialization. While Brazil's economy was driven by export agriculture until the 1930s, after World War II, the structure of the economy changed. By diverting capital from agriculture and encouraging foreign investment, Brazil began to industrialize. The military government that took over in 1964 defined "development" in terms of industrialization and macro-economic growth. Brazil did "develop": Growth rates between 1968 and 1976 jobs, however, tended to be in the informal sector and poorly paid. Difficulties in providing for basic needs meant people spent longer hours for lower pay. In a study of the shantytown of Indio Guayas, on the outskirts of the coastal city of Guayaquil, women's involvement in the paid labor force increased from 40 percent in 1978 to 52 percent a decade later. When women enter the wage labor market, they often have less time to care for their children.

Disparities in wealth and income between rich and poor people also followed in the wake of the oil boom and crisis. In the early 1980s, 40 percent of the people received about 5 percent of total income, while the wealthiest 20 percent took nearly 72 percent. Fifty-five percent of the population—nearly five million people—were officially classified as living below the poverty threshold in the late 1980s.

In recent years hunger has been exacerbated by the

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averaged about 10 percent a year, although from the mid-1970s on, this growth was sustained by incurring high levels of foreign debt.

Growth did generate jobs, primarily in the southeastern urban areas, and touched off large-scale migration; it is estimated that between 1960 and 1980, 28.5 million people migrated out of rural areas. Many of those who migrated south came from the impoverished agricultural sector of the northeast. Most migrants found better access to health care and other services in the urban areas.

An improved health infrastructure as well as gradual improvements in sanitation contributed to a sharp fall in the infant mortality rate between 1970 and 1980. The percent of families officially defined as below the poverty line also dropped, from 44 percent in 1970 to 18 percent in 1980. Other indicators show less progress in improving the lives of poor people. Income inequality worsened during this period, and by 1975 only 33 percent of Brazilians met their minimum daily caloric requirements. From birth to age 17, 42 percent of children reached normal weights for their age, and 20 percent were stunted. Largely left out of the "miracle" development of the south, the northeast region has consistently faced the worst hunger problems.

Economic Crisis

By 1980, the Brazilian miracle growth of the 1970s had come to a halt. In the mid-1970s Brazil's military government began to borrow heavily from international banks. From the standpoint of the mid-1970s, borrowing money was not a bad idea: interest rates were at an all-time low and commercial banks were desperate to lend money. But by 1980, the sudden upturn in U.S. interest rates caused an enormous jump in debt service payments. Like many other developing countries, Brazil also experienced declining terms of trade throughout much of the 1970s: it is estimated that Brazil lost $45 billion from 1973 to 1985 because it cost more to import goods while export income declined. Plagued by debt, poor internal management, and global recession, Brazil's "miracle" economy collapsed in 1981.

The human impact of the economic collapse was most felt in the industrial south. In an economy where more and more people were dependent on wage labor, unemployment grew. Wages (adjusted for inflation) fell in all sectors, but fell disproportionately for unskilled (and more poorly paid) workers. These included jobs in construction, agricultural labor and domestic services, areas which also have a disproportionate concentration of women (domestics) and Blacks (construction, agriculture). With no national unemployment insurance, jobs in the informal sector (day-labor, street vending, etc.) more than doubled in 1982. By 1985, 45 percent of the total economically active population was outside the formal labor market.

Prices for food, a major expenditure for poor families, increased more rapidly than other prices between 1981 and 1985. This disproportionate increase in food prices was a result of a five-year drought in the northeast and a reduction in cultivated land for domestic food crops. One study of conditions in the city of Sao Paulo during the crisis found that the relative changes in food prices and wages meant that on average, poor families suffered a drop of 360 to 400 calories in their daily food intake.

In the wake of the economic collapse, government health expenditures declined. Brazil's infant mortality rate increased from 65 to 73 deaths per thousand births between 1982 and 1984, before resuming its overall downward trend. While this increase is in part attributable to an outbreak of measles, the disease also attacked a population already significantly weakened by malnutrition. The sharpest increase was experienced in the northeast, where infant mortality increased by almost 25 percent during the course of the same two years. A study conducted by UNICEF in 1982 found that 69

Continued on next page

structural adjustment packages mandated by the International Monetary Fund (IMF) to deal with Ecuador's international debt of $9.6 billion. Between 1982 and 1988, two different Ecuadorian administrations adopted eight distinct stabilization/adjustment packages. One of the measures of the IMF-guided reform program was to provide incentives to farmers, especially those who produce bananas, cacao and coffee for the export markets and contribute to the country's foreign exchange earnings. Producer prices increased by 15 percent in 1986. Large landowners and the well-connected gained the most under these measures. In contrast, small-scale farmers and those not in the export sector had far less access to credit to purchase inputs and expand production, and crop production for local consumption fell.

Structural adjustment did little to control unemploy-

Continued from previous page

percent of children in the northeast (both rural and urban) were permanently affected by stunting.

Brazil since 1985

Although the economy began to emerge from the worst of the recession in 1984, the overall failure of the military government's industrial development policies increased political pressure for change. In 1985, with annual inflation running at more than 200 percent and a foreign debt of about $103 billion, the military handed over power to a new civilian government.

The response of the government to the nutritional and social needs of the majority of Brazilians was limited by external factors (such as the debt) and by a political inability or unwillingness to implement structural changes, such as land or tax reforms. A number of nutrition programs targeted to poor people were bolstered or put into place, the most important of these being a milk distribution program and a school lunch program. Official estimates of the numbers of children eligible for federal programs are 13 million, but only 4.4 million are currently participating.

The government was less successful in promoting the conditions in which poor people can adequately feed themselves. An anti-inflation plan (the Cruzado plan) in 1986 resulted in a substantial increase in the income of urban poor people, but was ultimately unsuccessful in controlling inflation. Since 1987 inflation has been galloping out of control and was running over 1,000 percent a year in 1989. Inflation is hardest on poor people, whose incomes in real terms are continually eroding. According to one estimate, real wages fell 40 percent in 1988. The erosion of purchasing power means people eat less; in the fall of 1989, when inflation was running about 40 percent a month, two major supermarket chains registered a drop in food demand.

Land reform promises have gone unfulfilled. According to the National Confederation of Agricultural Workers, as of 1989 the government had met only 10 percent of its target of re-distributing some 3 million hectares of "unproductive" land. As part of a government plan to reduce expenditures, the Ministry of Agrarian Reform was recently abolished.

Slowdown in the industrial sector combined with a failure to address the land reform question has also played a role in the much-publicized conflict over the fate of the Amazon rainforest and the people who live there. Although most large incursions on the Amazon have been made by government-sponsored projects and commercial enterprises, to avoid starvation many small farmers have started clearing rainforests themselves. As forests are increasingly cut and burned, the resultant erosion and losses in soil fertility are becoming severe, and may affect long-term sustainability of food supplies.

Postscript

In November 1989, Brazil elected Fernando Collor de Mello as its new president. Although from a wealthy family himself, Collor has announced his commitment to poverty alleviation and has promised to allocate $100 billion toward social programs for poor people during the next five years. He has also pledged a dramatic reduction in inflation and a reduced government role in the economy. With inflation largely the result of persistent government deficits, a foreign debt of approximately U.S. $110 billion, and interest payments on government *internal* debt running at approximately 1 percent of GDP a month, these goals will be difficult to reconcile. Under Collor's current inflation-fighting plan, poor people are now able to purchase more food, though unemployment is rising rapidly. Judging from results elsewhere in the world, however, implementation of a traditional inflation-controlling austerity package will result, at least in the short term, in more Brazilians going hungry. ■

ment. Between 1980 and 1988 the official unemployment rate increased from 6 to 13 percent. In 1984 during the most critical period in the adjustment program, there was an "explosive" growth in underemployment, estimated at 55 percent in the major cities of Quito and Guayaquil, and a decline in real wages.

In the 1980s, food prices have soared, but people's ability to buy food has fallen. Real incomes declined in the mid- and late-1980s due to wage cuts, inflated food prices (especially for staples), the higher cost of imported goods, and increased education and health costs (designed to increase government revenues). In 1984, the minimum wage (assuming consistent employment) could buy 65 percent of a family's food costs; if employment was temporary or seasonal, wages purchased as little as a third of a household's food needs. The majority of Ecuadorian households are, in real terms, poorer than they were 10 years ago, with a marked deterioration since 1988.

Poor people are eating less food, less nutritious food, and cheaper food. A 1988 study of the shantytown of Indio Guayas found 42 percent of households no longer drinking milk. The consumption of fish and eggs has similarly declined. Families tend to eat less per meal; by 1988, one quarter of the households were eating one meal a day. Parents hoped that their children would get free milk at school, but this was not assured.

Many Ecuadorians are working to reduce hunger and poverty. A number of Ecuadorian groups have protested the social insensitivity of the government's economic policies. Extensive land reforms have been pursued by numerous organizations of agricultural workers, particularly as the country increases its dependence on imported wheat and rice. Nevertheless, Ecuador faces the 1990s with continuing economic imbalances and continuing hunger and poverty.

Nicaragua

The people of Nicaragua had high hopes for overcoming hunger and poverty when the 1979 overthrow of Anastasio Somoza ended 46 years of Somoza family rule and brought the Sandinistas to power. In the decade prior to the revolution, Nicaragua's population suffered severe poverty and misery, in spite of the country's overall wealth in natural resources. Half the population was estimated to be living in serious poverty. Between 1965 and 1975 undernutrition doubled—60 percent of children under five were undernourished—and seasonal hunger was widespread.

Hunger was reflected in the wide gap in land ownership and wealth. In a population of 3.6 million people (42 percent of whom were rural), more than half the rural population were landless or held plots too small to sustain households and therefore dependent on seasonal employment on large estates. Three percent of the population controlled approximately 50 percent of the national income. The Somoza family alone controlled 15 percent of the cultivable land. Large landholders primarily produced export crops. Domestic food prices were high, and adequate food was often inaccessible to low-income people who made up the majority of the population. Unemployment stood at 40 percent. Hunger strikes and rallies provided much of the organized impetus for the 1979 Sandinista revolution.

When the Sandinistas took over, they turned over approximately 2.5 million hectares to tens of thousands of farm families and small cooperatives in the largest land distribution effort in Central America. Credit and improved markets were made available to farmers. The government promoted policies which sought to balance internal food security with production of export crops such as coffee, sugar and cotton. As one food advisor to the Sandinista government stated in 1982:

> *Growing more corn—and beans and rice and all the other foods the Nicaraguans need—lies at the heart of the Sandinista revolution. Transforming Nicaragua into a country that would produce harvests bountiful enough for everyone was a primary goal of those who made the revolution. With the triumph over the Somoza dictatorship, realization of that goal quickly became vital to the success of the revolution itself.*

In addition to land reform, the government created more jobs, raised wages for the working poor, subsidized food imports, and lowered prices of other basic necessities (such as housing, education, transportation and medical costs) in order to give poor people more purchasing power and stop food hoarding by the wealthy. In the years after the revolution people ate better and production of staple foods increased up to 25 percent above pre-revolutionary levels. Self-sufficiency was achieved in many crops. The infant mortality rate (IMR) dropped from 121 per 1,000 live births in 1978 to 50 in 1990, and the World Health Organization (WHO) and UNICEF presented Nicaragua with awards for achievements in health.

These achievements proved to be unsustainable, however, due to various external and internal factors. One factor was the failure in design or implementation of some Sandinista policies, and the government's mismanagement of the economy. Large government expenditures for agricultural policies aimed at the export market failed to address the needs of the cooperatives and the farmers. Furthermore, the government often funded its expenditure needs by printing additional money, which spurred inflation. In 1985 inflation was 300 percent; by 1989 it had reached 30,000 percent: prices literally doubled overnight, hitting low-income consumers the hardest. Real earnings dropped almost 13 percent from 1982 to 1983, and fell another 4 percent in 1985.

Another factor was the effects of the war against the U.S.-backed *contras* (anti-government rebel group). The war resulted in the death or injury of about 60,000 Nicaraguans; it cost Nicaragua $12 billion in lost production and destroyed infrastructure. Contra attacks destroyed food crops and agricultural infrastructure; food insecurity became a weapon in the contra strategy. The war consumed nearly half the nation's budget, and from about 1983 crop production declined as resources were shifted to fight the war. Approximately 175,000 Nicaraguans were displaced or relocated in emergency resettlement programs where their food needs were met by special government purchases. By the end of the 1980s, the resources that had been designed to help alleviate hunger—for investment in the agricultural sector, or for credit and other programs to assist small farmers and cooperatives—were rarely available.

Finally, Nicaragua's economy suffered from the closure of U.S. markets, resulting from U.S. opposition to the Sandinista government. Isolation from international trade made it impossible to service the extensive debt inherited from the Somoza regime. Imports were limited by the lack of foreign exchange. Rapid inflation, reduced production, unemployment and the government's inability to stabilize the economy led to increasing popular dissatisfaction. In turn, the government sought to crack down on dissent. Economic austerity measures were implemented in the late 1980s. Combined with declining food production, the new policies fell most heavily on poor people, and vulnerability to hunger increased.

In April 1990, a new government assumed power, as voters expressed their concern about hunger and poverty and their weariness of war. This government is made up of a diverse coalition of interests, and the change raises many questions about the direction of Nicaraguan policies that may affect hungry and poor people.

El Salvador

El Salvador has a long history of civil conflict, which is rooted in severe inequalities in wealth, notably land ownership. In the 1980s civil conflict escalated and military expenditures increased. At the same time, funding for social welfare programs declined significantly, resulting in increased vulnerability to hunger among large segments of the population and declining food consumption among the poor. Recent research suggests that less than one-tenth of Salvadorans meet their food needs.

The nutritional status of children under five reflects the quality of life at the household level. Forty-four percent of under fives are underweight and nearly a fifth are stunted. More than two-thirds of children displaced by the decade-long civil conflict are undernourished. Among this group of children, 86 percent suffer some degree of malnutrition. UNICEF reports an infant mortality rate (IMR) of 48 per 1,000 live births in the mid-1980s while other sources cite a figure of 91, the highest rate in Central America. (The discrepancy may be due to the method of accounting for deaths due to war.) Studies suggest that the IMR has declined significantly as a result of an intense child immunization campaign carried out throughout the country in the mid-1980s.

The social groups most vulnerable to hunger in El Salvador are households of small-scale farmers (those with less than 10 hectares), salaried agricultural workers, and the one million people displaced by the war and living in urban marginal areas. In areas where fighting between the rebel forces and government troops has been most pronounced, vulnerability to hunger appears to be more severe.

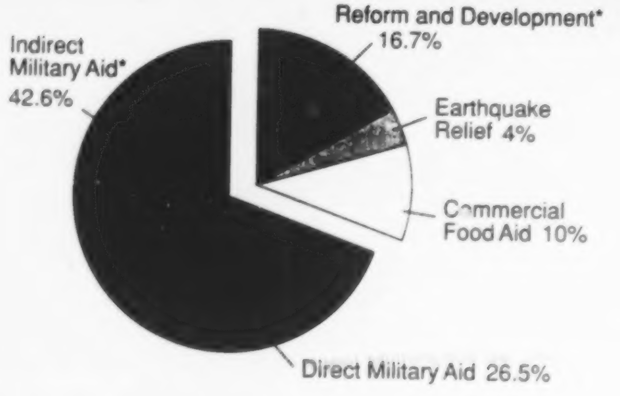
At the heart of the hunger situation in El Salvador is the civil conflict over inequitable land distribution. In 1979, six Salvadoran families held more land than 133,000 small farmers. One percent of the farm households owned 41 percent of the land; 71 percent of farmers owned 10 percent of the land. Sixty percent of the rural population were landless.

In 1980, a land reform program was implemented, but the success of the program in redressing inequalities has been disputed. Salvadoran government supporters maintain that more than 22 percent of the country's total farmland has been transferred to landless farm workers. Others argue that the reforms only attained half of their targeted redistribution and that the roughly 1.8 million people excluded from the reform represent the poorest and most needy in the country. They also contend that the reforms have been manipulated to leave a quarter of the land untouched as a result of secret arrangements between politicians, military officers and wealthy landowners—with the result that 80 percent of all farmland remains in the hands of the original owners.

Following the reforms, poor farmers in the countryside began organizing into unions and cooperatives. However, as these organizations began to grow, so too did the intimidation and violence. According to a 1984 U.S. Agency for International Development (USAID) study, one third of 63,000 applicants in the first phase of the agrarian reform program were not farming the land because they had been threatened, evicted or had "disappeared."

Income distribution in El Salvador parallels inequities in land. El Salvador has one of the widest gaps between upper and lower income groups in Central America. In 1980, the wealthiest 20 percent of the population had an average monthly income 32 times greater than the poorest 20 percent. By the end of the 1980s, the disparities had widened. Real wages had fallen by one third since the war began in 1980. The government reported that it took seven average salaries to meet a household's nutritional needs.

**U.S. Aid to El Salvador
1981-88**



* Includes some economic support funds.
Source: U.S. Agency for International Development, U. S. Department of Defense

Throughout the 1980s, the Salvadoran economy was heavily subsidized by the United States in an effort to quell political and social unrest. Subsidies have created a highly unstable economy almost totally dependent on U.S. support. A 1985 Ministry of Planning study found "open" unemployment at 16 percent, but did not survey underemployment which may affect more than 30 percent of all adult Salvadorans. A study of people receiving food assistance through the Catholic Church found that unemployment and underemployment for these low-income families may be as high as 75 percent.

Other factors contributing to the economic decline include a severe drought in 1986, a major earthquake in October 1986, and a fall in international coffee prices. Production of the main export crops (coffee, cotton and sugar) fell by 90 percent in the 1980s. The country has become heavily dependent on food aid.

The spiral of poverty and hunger, conflict and repression continue in El Salvador. Nearly 75,000 people have been killed since 1978, most of whom were poor. One million have fled the country or have been "internally displaced." This has resulted in an increasing number of female-headed households in the country. The vulnerability of these households to hunger may be increasing as a result of reduced incomes and increased demands on women's labor.

The ability of the Salvadoran government to sustain this war depends on U.S. aid. Between 1984 and 1988,

> "The cause of all our ills is the oligarchy—that handful of families who care nothing for the hunger of the people, but need that hunger in order to have cheap, abundant labor to raise and export their crops."
> —*Archbishop Oscar Romero*

"Everywhere the landscape provides evidence of a growing landless and unsettled population. In any part of the country, the sight of dispersed huts of sticks and straw indicates the temporary residence of peasants, either seeking to plant a crop or maize on a nearby piece of land, or waiting for the opportunity to work in neighboring plantantions."
—*unknown*

direct and indirect war-related aid amounted to 71 percent of all aid to El Salvador.

In their effort to reduce hunger, many poor people have formed unions such as the prominent Rural Workers Federation, assisted by "base communities" of the Catholic church. Another group, the *Popular Power*, is a grassroots movement that organizes collective food production. Generally, able-bodied members of the community contribute two or three days a week to collective production.

El Salvador enters the 1990s with a new government. U.S. support for the government is backed with $1.5 million daily in military aid. While efforts were underway in 1990 to bring government and rebel negotiators together for dialogue, and to reconsider levels of U.S. military aid to the government, prospects for ending the violence and turmoil remain uncertain.

Honduras

Honduras is considered the most impoverished country in Central America and the third most impoverished nation in Latin America, behind Haiti and Bolivia. Poverty in Honduras affects more than 55 percent of the rural and 14 percent of the urban population and results in hunger among at least 55 percent of a population of 5.1 million people.

In the mid-1980s, it was estimated that more than 70 percent of Honduran infants were undernourished. UNICEF reports that in 1987, 34 percent of children under five suffered from stunting.

Maternal malnutrition is reflected in the fact that in 1987, 20 percent of infants were born with low birthweights.

Hunger is most prevalent in rural areas. Rural people receive only four-fifths of calories they need for healthy and productive lives. People living in the south where Honduras borders Nicaragua are particularly vulnerable. Higher rates of hunger in the south have been exacerbated by periods of severe drought and by the militarization of the region as U.S.-backed *contras* (anti-government rebels) set up camps in Honduras to fight the Nicaraguan government in the 1980s. The presence of the contras forced some 16,000 Hondurans to flee their homes and destroyed the livelihoods of 2,000 Honduran coffee growers along the border area. But before the presence of the contras, rural southern Hondurans were at a disadvantage: 45 to 70 percent of small households could not grow enough food for basic consumption.

Honduras, like most Latin American countries, has experienced a decline in nutritional well-being during the last decade. The ability of rural households to purchase basic food items declined more than that of urban households due to escalating rural unemployment and declining agricultural prices.

The conditions of hunger are linked to unequal access to income and land, high unemployment, a large national debt, transnational corporate control over the economy, and perhaps most importantly, the impact of militarization within the region.

Six poor Hondurans struggle to survive on what one wealthier Honduran consumes daily. In 1980, the wealthiest 20 percent of the population earned nearly 60 percent of the country's total income; the poorest 20 percent earned a mere 3.5 percent. More than half the total land and two-thirds the fertile land are owned by only 5 percent of the population; 20 percent of productive land is in the hands of 279 individuals or firms.

The Honduran government's land policies have favored export crop production to generate foreign exchange. Two-thirds of fertile land owned by large landowners is used to graze cattle for export beef. Other fertile land is used to produce bananas for export and is largely controlled by U.S. transnational corporations. Three banana corporations—United Brands, Castle & Cooke, and Del Monte—control 90 percent of Central America's banana production and all its fruit marketing. Land allocated to export crops increased by 50 percent between 1950 and 1980, while per capita production of basic foods fell 19 percent. The government's agricultural bank has allocated less than 5 percent of its credit reserve to basic foods production while giving the livestock industry 24 percent. In 1990 Honduras will import one-fifth of its cereal consumption, an amount equivalent to that used for livestock feed.

Furthermore, control by U.S. corporations have continually limited the ability of poor people to gain access to land. For example, efforts at land reform were curtailed in

1962 when the United Fruit Company pressured the Villeda government to make expropriation of private land impossible.

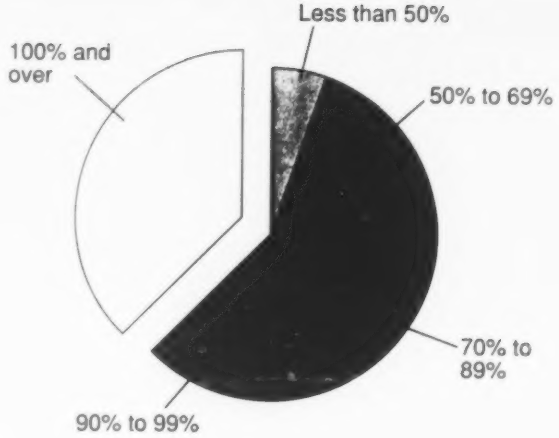
Agrarian workers' protests led to land reform laws in 1972 and 1975, but only about 10 percent of rural Hondurans benefited. Out of popular dissatisfaction, the Honduran Federation of Peasant Women was formed to fight for land, and in particular to change the land reform law's discrimination against women obtaining land in their own right. In other cases, farmers have taken direct action to gain land previously lost to large landowners. In May 1987, 100,000 agrarian workers invaded 35,000 acres of land in northwest Honduras, the largest land invasion in Honduran history. The invasion was met with police resistance, but eventually forced the government to process the workers' land claims.

Hunger in Honduras has also been affected by unemployment and wage rates. In 1986 the government estimated that 25 percent of workers were unemployed; however, the Honduran Economists' Association estimated nationwide unemployment at 41 percent. Underemployment rates are even higher. But work is not a guarantee that one can feed oneself or one's family: most laborers in Honduras earn little more than a dollar a day; it costs at least that much to feed a family of four at the most marginal level of existence.

The well-being of poor people has also been affected by U.S. military and foreign policies during the last decade. U.S. military involvement in Central America designed to topple the Nicaraguan government has had repercussions on Honduran spending priorities. Military spending increased while social spending proportionately declined. By 1985, expenditures for the military took 30 percent of the national budget, while expenditures for health and education comprised only 7 percent.

The United States has also influenced Honduran economic policies. Four days after the inauguration of President Suazo (1981-1985), the U.S. ambassador handed him a package of recommendations designed to stimulate private investments, boost exports, and deregulate the economy. It included measures to reduce public spending by 10 percent, with drastic cuts in the budgets of health, education and agrarian reform, and to put an end to price controls for staple foods and medicine.

Honduras: Calorie Consumption Satisfaction in Households, 1987



In general, consumption below ninety percent of requirements represents undernutrition.

In Honduras, calls for land redistribution and access to better jobs and more food persist. With the country's continuing dependence on U.S. security aid and an agricultural system controlled for export production, Honduran people face continued difficulties. Achieving food security will require an end to militarization in the region and policies which respond to popular needs.

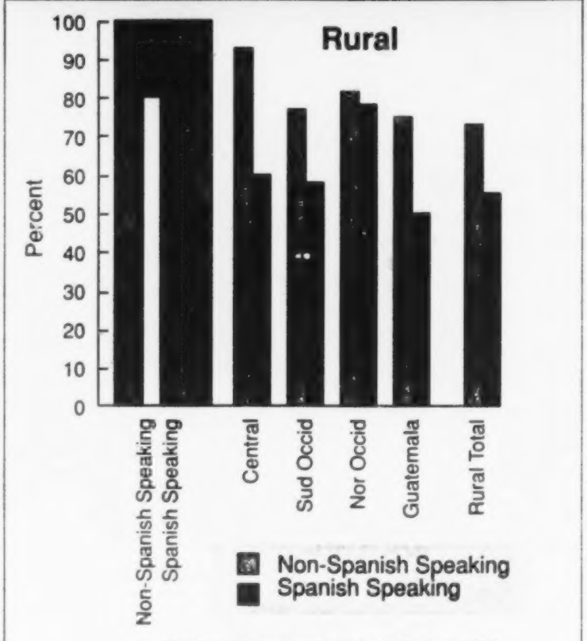
> "You read in the paper 'Campesinos invade...land.' That's not true. We don't invade land, we recover land that belongs to us by law but was invaded by the big landowners or the foreign companies."
> —*unknown*

Guatemala

In Guatemala, one of the most well-endowed countries in Central America, poverty and hunger persist in the face of concentrated wealth. By the mid-1980s about three out of four Guatemalans lived in poverty; nearly 40 percent of the total population (and 60 percent of the rural population) could not afford to purchase food to meet their minimum nutritional needs. Many believe that the hunger situation has not improved during the past 20 years.

Among the most vulnerable children (those under 5), a staggering 85 percent are undernourished to some degree. A 1987 survey found 58 percent of children under 3 stunt-

Guatemala: Percent of Stunting, By Region



Source: Demographic Health Survey, 1987

> "The only market we have is the United States, because here in San Marcos people don't eat and cannot afford broccoli and snow peas. Diversification is a solution for very few small farmers.... Right now, they don't even have enough land to produce the corn to feed themselves."
>
> —*German Catalan*
> *Guatemala Ministry of Agriculture*

ed; the figure rose to 75 percent in the northeast part of the country. Sixty percent were underweight. Among school children aged 6 to 9 years, 37 percent were stunted. A 1986 Guatemalan Ministry of Education survey found that eight out of 10 pupils who attended primary school arrived with an empty stomach.

Pregnant and lactating women continue to be highly vulnerable to hunger. UNICEF reports that in 1980, 10 percent of infants were born with low birthweights. Health services for these women, particularly rural women, remain limited.

The regions most vulnerable to hunger are the southern coast and the highlands. On the southern coast, both children and adults are vulnerable to hunger because of the seasonal work on plantations producing export crops. In the highlands, the indigenous Indian population (which constitutes 50 percent of the Guatemalan population) is particularly vulnerable to hunger. Infant mortality rates (IMRs) for Indians are estimated to be nearly twice as high as for non-Indians. Some of the highest malnutrition rates (72 percent of children under 3 years are stunted) occur among the indigenous population.

As in many other Latin American countries, hunger reflects disparities in access to land and income. With a history of inequitable land distribution, almost all of Guatemala's high quality land and manufacturing assets are owned or controlled by a few hundred families. U.S. Agency for International Development (USAID) reports that 2.1 percent of the population owns 80 percent of the land. Large farms are generally devoted to export crop production. Similarly, only 15 families account for 45 percent of Guatemala's cotton production, while 50 families own the largest 100 of Guatemala's 3,000 coffee plantations.

At the other extreme, 90 percent of the farms are less than 7 hectares and grow food crops such as maize, beans and potatoes. Farms smaller than 1.4 hectares account for 54 percent of the total number of farms, yet only 4 percent of all farmland. In the highlands, nine out of 10 people live on plots of land too small to support them.

Nearly half the total population are landless wage laborers, providing the huge plantations with a cheap workforce at harvest time. Between 200,000 and 600,000 land-poor or landless workers migrate every year to work the plantations. Women represent around 25 percent of all the temporary wage labor on the coffee plantations; children also work there. These seasonal workers are especially vulnerable to hunger during the off-season.

Although Guatemala experienced rapid economic growth in the 1970s, in the 1980s the country experienced the same economic declines that characterize the region as a whole. From 1980 to 1985 half the economic growth of the previous 30 years was lost. By 1985 at least 45 percent of the population were under- or unemployed. For workers in 1982, average real wages covered only half the cost of the minimum daily diet. Since then, inflation has worsened the economic conditions for low-income people, and changes made under an International Monetary Fund (IMF)-supported austerity program designed to stimulate the economy have exacerbated major income disparities.

Persistent poverty and hunger underlie the civil unrest which has continued to plague Guatemala in recent decades. Poor urban workers and rural agriculturalists have attempted to organize grassroots movements, unions and cooperatives in order to improve their food security and living conditions, but these movements have been met with harsh repression. As many as 70,000 Guatemalans were killed, and another 40,000 "disappeared" in over a decade of fighting. The government forced 700,000 Indians into civilian patrols and tens of thousands of Indians have become refugees, further disrupting food production.

Non-violent protests by the rural poor prompted the government to initiate land reform in recent years, buying land from large landowners and selling it to the poor with low interest, long-term financing. However, these efforts have been criticized as ineffective: only 5 percent of the landless have received land.

One other recent initiative (sponsored by USAID) to reduce hunger has also been criticized. It sought to increase farmers' incomes through production of select vegetable crops (snowpeas, broccoli, cauliflower and parsley) for export. The prices farmers received did not cover their production costs, leaving them with neither the food crop nor the money to purchase food, but rather substantial debt. Furthermore, the project reduced an independent source of cash income for women market vendors, as many began spending unpaid time weeding, planting and picking vegetables on family plots.

Such misguided projects offer little solace in resolving the problems of poverty and hunger in Guatemala. Indeed, the recent intensified fighting between the government and guerrillas is a stark reminder of the persisting inequalities in land and income that have brought hunger and fueled civil unrest.

Mexico

Mexico is one of the wealthiest and one of the poorest nations in the world. In recent years, it has been one of the top 15 food-producing countries and one of the largest oil producers and silver exporters. Yet within the same period an estimated 40 to 50 percent of the population have not been able to obtain the minimum levels of calories for adequate health, growth and a productive life, and another 28 percent are critically undernourished.

Undernutrition among children is comparable to that of the Mexican population as a whole. Recent estimates indicate that about one third of children under five are undernourished. In 1985, the then president claimed, "Of the two million babies born every year, 100,000 die in their early years of life due to factors related to malnutrition, and one million survive with physical or mental handicaps due to food deficiencies." A 1984 study of four rural communities showed that between 40 and 50 percent of the children experienced nutritional stress at some time in their first five years of life.

Although better health services have improved the nutritional status of pregnant and nursing women in recent years, rural women continue to be highly vulnerable to hunger. In a study in the central highland region of the Solis valley, 20 percent of the women were anemic. Women were unlikely to increase caloric intake during pregnancy, resulting in low birthweights among 7 percent of newborns.

In the mid-1970s, the prospects for alleviating poverty and hunger in Mexico seemed good. The oil boom generated increased revenues and prompted borrowing from international banks. However, much of the money went into real estate development and luxury consumption, and in 1982, after oil prices had dropped, Mexico was no longer able to service its debt. In an attempt to solve debt problems, Mexico began implementing a series of structural reforms which were sanctioned by the International Monetary Fund (IMF) and its commercial lenders.

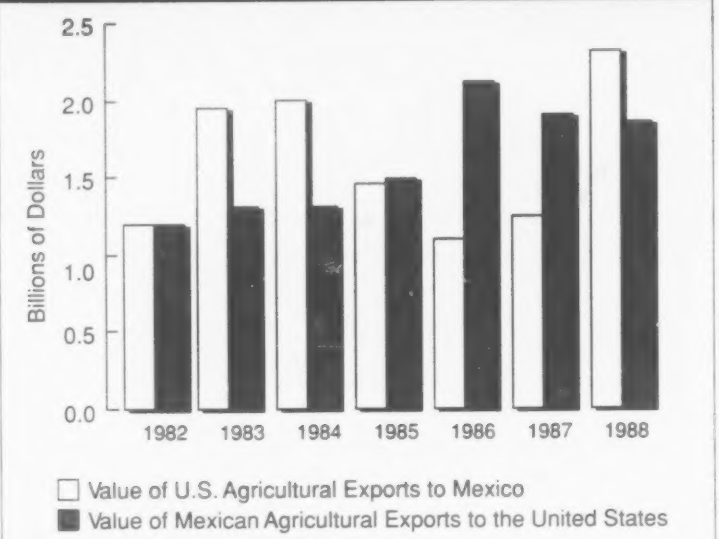
The debt and structural reforms have had a profound impact on food availability and hunger. This is reflected in the increasing number of Mexicans unable to meet their basic needs, which according to government figures, rose from 30 million in 1982 to 43 million in 1989—about half the total population.

The reforms intensified the shift in the north from basic food crops to crops targeted for sale internationally to help raise the foreign exchange needed to service the debt. Currently, about half the agricultural and cattle production of Mexico goes to foreign consumers, largely in the United States, or to a select minority of the population.

Low wages to agricultural workers and government subsidies on irrigation systems and fertilizer provide a stimulus to export agriculture. Few rural Mexican workers earn the official minimum wage, which would be adequate to cover the basic needs of a standard family. Wages remain low because there are too few jobs for the number of peo-

> "Everybody has rights, but there are many who don't have land. When somebody leaves [for work in the city], somebody else will work the land. Land is lacking."
> —*Mexican peasant Indian*

Mexico: Value of U.S.-Mexican Agricultural Trade (1982-1988)



Source: U.S. Department of Agriculture

ple who want work. The abundant supply of agricultural labor—including three million rural landless—also keeps Mexican products cheap and competitive on the world market.

Despite the fact that Mexico has had the most extensive agrarian reform program in non-socialist Latin America, large commercial farms are concentrated on the best lands, with access to irrigation. Located primarily in the north, nearly half of all government and private credit has been directed toward these farms.

Large commercial farms stand in contrast to *ejido* lands which are located primarily in rainfed areas and produce mostly staple food crops. Ejido lands are communal property expropriated from large estates after the Mexican Revolution in the 1920s and on which individuals have private rights. More than half of the land holdings in Mexico are under ejidos. Only 12 percent of ejido land is suitable for cultivation, and an additional 2 percent has access to irrigation. Most ejido holdings remain small; more than one in five are less than one hectare and more than half are under 4 hectares. On these lands, farmers can barely make as much as a laborer in industry earning minimum wage. It has been estimated that at least one third of Mexican families below the poverty line are *ejitararios*.

The Green Revolution in Mexico has favored rich farmers, particularly those in the north with better access to capital and irrigation water. New Green Revolution varieties of wheat have increased supplies to the urban industrial workforce, the middle and upper class consumers and northern Mexicans who eat wheat bread. However, for more than one third of the rural population, particularly people in the south, wheat is not a part of the staple diet.

One of the most dramatic changes in the 1980s is migration of rural people to urban areas. As rural wages have declined, more than half the Mexican population has migrated into urban areas. The trend has also affected the United States, as tens of thousands of Mexicans annually emigrate to the United States in search of better paying jobs.

During the 1980s, the urban poor faced increasing difficulties meeting their food needs due to rapid inflation and widespread unemployment. By 1987 the minimum wage in Mexico City had collapsed to half its 1981 value while the basic basket of food cost 14 percent more than the minimum wage. Compounding this, the number of workers receiving salaries below the minimum wage increased from 13 percent in the early 1980s to nearly 40 percent in 1985. At least half the workers in Mexico are either unemployed or underemployed.

With the changing economy of the 1980s, women have had to change their roles by intensifying their unpaid labor, entering the waged labor force or reducing personal food consumption. The single most important process affecting rural women since the 1960s has been their entry into the labor market. Although the data are limited, these changing roles may negatively affect household nutrition as women try to meet the new and multiple demands on their time.

The Mexican government has made efforts to reduce hunger. Perhaps the most well-known program was the *Systema Alimentario Mexicano* (SAM), 1980 to 1982. SAM provided a guaranteed price for maize, subsidies for fertilizers, improved seed and credit. With these incentives, production of poor people's basic foodstuffs—corn and beans—increased dramatically. While the program fostered short-term nutritional improvements and production gains, it did not bring lasting changes in the structure of agricultural production that might have led to sustained improvements in food security and nutritional conditions. Despite large investments in irrigation systems and subsidies to major grains, cereal production has declined in the past three years, and Mexico is expected to import about a quarter of its grain needs in 1990.

The debt-driven emphasis on export crop production and the continuous migration of people from rural to urban areas in the hope of escaping poverty strongly influence the extent of hunger in Mexico. In the 1990s it remains to be seen whether the agricultural and mineral wealth in Mexico can be shaped to provide adequate food for all people.

Jamaica

Hunger and malnutrition are less prevalent in Jamaica than elsewhere in Latin America and the Caribbean. However, the 1980s witnessed a disheartening decline in nutritional status, particularly among lower income groups. The decline resulted from the harsh economic policies imposed on an economy already in a downward trend.

Undernutrition is most prevalent in the southern parishes of the island and among landless workers and families with less than 2 hectares of land. Urban groups most at risk of hunger are large families, female-headed households, and children of very young mothers.

Children under five are among the most vulnerable to hunger. In 1989, 9 percent were underweight and 7 percent were stunted. Among under fives, malnutrition rose from 38 percent in 1978 to 41 percent in 1985; the number of stunted children rose slightly, as did underweight preschool children in both urban and rural areas. The number of children admitted to hospitals with diagnosis of malnutrition increased 13 percent.

The declining nutritional status also affects pregnant women. The last two decades have seen an increase in low birthweight babies from 10 to 12 percent of all births.

Jamaica's unique economy has perhaps allowed it to avoid the widespread hunger so characteristic of many other Latin American and Caribbean countries. The economy is the most diversified of the Caribbean nations in the United Kingdom Commonwealth, and it does not depend heavily upon any one product. Bauxite and alumina dominate the exports, and tourism is well developed. About a third of the country's labor force is employed in the agriculture sector. The agriculture sector's principal products are sugar and bananas, but with the decline of the sugar industry, winter vegetables, rice, corn and citrus fruits have helped diversify export commodities.

Low income remains a major determinate of hunger among 80 percent of rural Jamaicans estimated to be living below the poverty line. The Jamaican Ministry of Health notes that the poorest 30 percent spend 90 percent of their income on food, a situation caused by the 700 percent increase in food prices in the 1980s.

Hunger also stems from inequitable land distribution. Eighty-two percent of farmers hold less than 16 percent of total farmland. Much of the farmland owned by small farmers is located on eroding hillsides. Prime farmland is concentrated in large farms and is mainly used for export crops. When asked about Jamaican strawberries, one Old Harbor resident laughed, "I've never seen one. They go straight to Israel!"

The 1960s and 1970s were relatively prosperous periods for Jamaicans but by the end of the 1970s Jamaica was confronted with high prices for imported oil, a heavy accumulation of debt, declining tourism and rising rates of unemployment and inflation. In 1980 a new government attempted to recover financial stability through austerity measures backed by the International Monetary Fund (IMF) and the United States. These measures included severe cuts in social service spending. Export agriculture was encouraged in order to gain foreign exchange. Food subsidies were cut and price controls were lifted on food and other basic commodities. A supplemental food aid program begun in 1984 reached only a fifth of its intended beneficiaries.

Economic crisis and the austerity policies of the 1980s resulted in real incomes falling and unemployment increasing to nearly 25 percent. The orientation of the agricultural sector toward export crops (24 percent of total exports in 1985) rather than for domestic consumption contributed to increased prices of locally produced foods. Income inequalities and high unemployment increased the vulnerability of poor people to food insecurity according to the Food and Agriculture Organization (FAO).

In 1985, inflation and food prices dropped and a small increase in wages was allowed. This three-year recovery ended, however, when Hurricane Gilbert devastated the island in September 1988, severely damaging banana, coffee and vegetable crops as well as livestock. More than a quarter of the country's population was seriously affected, infrastructure was destroyed, and damages totalled about U.S. $1 billion. Following the hurricane, widespread food shortages were reported. Real agricultural production fell nearly 8 percent in 1988.

In 1989, the Manley government of the 1970s resumed power. Jamaica's dire straits compel the government to pursue IMF-type policies which the Manley government of the 1970s would have rejected. This government, however, is concerned about mitigating the impact of structural adjustment on poor people. The minimum wage was been doubled, the food stamp program has been expanded, and pension benefits have been raised.

Cuba

While Cuba's government has been oppressive in many ways, in terms of social welfare—hunger, education, health, housing—Cuba has made vast improvements compared to many other countries in the region. In comparison to the region, Cuba has a low illiteracy rate and an infant mortality rate (IMR) equal to and lower than some industrialized capitalist nations.

In most Latin American and Caribbean countries, children are most vulnerable to undernutrition. By contrast, Cuba's youth are more likely to be obese than underweight. A 1986 U.N. study reported that while only 4 percent of primary school children were undernourished, 24 percent were obese, and at the secondary school level, 6 percent were undernourished and 16 percent obese. The children most vulnerable to undernutrition are those who do not live with their mothers, have alcoholic or very young mothers, or are members of families who recently migrated from rural to urban areas.

Many indicators point to improvements in health and nutritional status of Cubans since the 1959 revolution. Infant mortality decreased significantly. In 1960, the IMR was 68 per 1,000 live births while in 1975, that figure was 29, and by 1990 had dropped to 13—one of the lowest in the region. Improvements in health care and nutrition have also led to significant reductions in maternal mortality (MMR). The rate dropped from 118 per 100,000 live births to 31 between 1960 and 1985. Low birthweights have fallen below 10 percent, though they remain a matter of some concern within Cuba.

Prior to the revolution, Cuba's distribution of wealth and land was highly skewed, much like other Latin American nations. The richest 15 percent of the population received about 43 percent of the national income, and the wealthiest 9 percent of the landowners owned 62 percent of the farmland. Cuba was a "sugar cane republic," and the vast majority of poor people were employed as landless agricultural workers on large, privately owned plantations. Many of the largest sugar mills were owned by United States companies. It is estimated that more than 90 percent of the agricultural workers were undernourished, deficient in vitamins and protein in 1957.

One of the first things that the new government did was nationalize foreign-held firms and confiscate many of the large plantations and farms. By 1983 only 20 percent of farms were privately owned. The aim was to ensure that the *campesinos* (poor agricultural workers) received their fair share of income and produce. During sugar's "dead" season, the government created jobs in construction of roads, schools, medical clinics and housing. The results came quickly and the poorest 40 percent increased their share of the national income from 6.5 percent in 1959 to 17 percent in 1962. Several changes have occurred in agriculture during the past two decades. One of the most important permitted farmers to privately market a portion of their produce. Farmers' incomes and food availability increased.

Change in urban areas focused on improvements in housing, wages and price stability. In 1959 price controls were established on basics such as rice, beef, pork, bread, dairy products, potatoes and soup. Speculators were fined or jailed.

The new government began food rationing based on need rather than income, a policy criticized loudly by Cuban emigres. In comparison to other food rationing programs, however, it is generally comprehensive, includes everyone regardless of income, occupation or residence, and includes all foods considered to be essential to an adequate diet. The program was designed to further close the gap between rich and poor, though people could also supplement their rationed food baskets by taking advantage of various state-run food distribution centers, snack bars, schools and work cafeterias and state-run restaurants.

The government also opened positions for women in jobs that gave them employment security, workers' compensation and assurance of an officially sanctioned wage. In 1984, women made up 38 percent of the work force, double the rate in 1970.

While improvements in the health and welfare of Cubans have been great, certain basic economic problems have remained which have affected the ability of the government to achieve its welfare objectives. An economic boycott by the United States has limited Cuba's export markets. The Cuban government has depended heavily on the Soviet Union to obtain investment capital, hard currency and agricultural products. The Soviet Union also makes subsidized purchases of Cuban sugar and fruit, and exports a surplus of oil to Cuba for the latter's re-sale for hard currency. Upheavals in the Soviet Union in 1989 caused disruptions in shipments of chicken feed and wheat to Cuba. Shortages of bread and eggs have occurred and rationing has been tightened. The loss or disruption of other trading partners (Panama, Eastern Europe) places severe strains on Cuba's economy in 1990.

Cuba has also grappled with declining productivity and lack of worker incentives. Amid charges that the inefficiencies of bureaucratic economic management as well as corruption have contributed to this situation, the government—in contrast to Eastern Europe and the Soviet Union—has stifled discussions of economic reform.

Nevertheless, it must be recognized that Cuba has largely achieved its goals of substantially reducing hunger and poverty. Schooling is more widely available, and health standards for the whole population are higher in Cuba than in any other Latin American country.

Dominican Republic

Sharing the island of Hispaniola with impoverished Haiti, the Dominican Republic is a small country with rapid population growth and hunger problems exacerbated by unfavorable economic conditions. Ninety percent of the 7 million people do not receive the recommended daily calories and protein for a productive and healthy life. An estimated 45 percent of the population lives in poverty. Approximately 4 million Dominicans are hungry or vulnerable to hunger.

According to UNICEF, in 1986 13 percent of children under three were underweight and 21 percent were stunted. The rate of stunting is nearly 30 percent in rural areas, twice that of urban areas. Also in 1986, 16 percent of infants were reported with low birthweights, reflecting the poor nutritional status of their mothers. The maternal mortality rate was 74, a third of that in neighboring Haiti.

Although the Dominican economy experienced substantial growth in the 1960s and early 1970s, this growth did not improve significantly the conditions of the majority of the people, particularly those living in rural areas. The wealthiest 20 percent earned more than half the national income whereas the bottom fifth received only 4 percent.

Early in the 1980s, sugar, the major industry, was hit by falling world prices and a reduction in the quota the United States was prepared to import. The industry, mainly government owned, exports 90 percent of its production. New investments in industry and tourism, financed by foreign loans, were unable to generate the expected employment, incomes or improvements in the social welfare of poor people. With the hope of providing new jobs, free trade zones—based on cheap labor—were set up to assemble consumer products for re-export. In spite of attempts to diversify the agricultural sector, sugar remained the basis of the economy and could not sustain other sectors in an era of depressed prices.

As a result of the economic crisis, the country has experienced high rates of unemployment. In 1987 the official rate was 28 percent, but most economists believe that the actual figure is closer to 40 percent. Paradoxically, during the period of highest unemployment in the 1980s, the Dominican Republic continued the century-old policy (arranged with the Haitian government) of importing Haitian sugar cane cutters. Ninety percent of sugar cane has been cut by Haitian immigrants who work under slave-like conditions. In the late 1980s the hiring of Haitian workers was curtailed.

Wage labor opportunities for women have increased in recent years in the new free trade zone and agro-industry and provide important income in a period of declining real wages and employment opportunities. Women comprise more than half of all workers in the free trade zone industries. However, the multiple demands on women's productive and reproductive responsibilities make them more vulnerable to hunger. For example, recent studies show that women work up to 16 hours daily and in the poorer rural highlands have an average of seven children.

The economic crisis prompted an austerity plan, which was supported by the International Monetary Fund. In April 1984, the government increased prices on imports and food products overnight, provoking food riots. The austerity plan had the worst impact on poor people. The price of a daily subsistence portion of food consumed half the minimum daily wage in 1985. Infant and child deaths from undernutrition, dehydration and other hunger-related illnesses doubled from 1984 to 1985.

As austerity conditions continued, strikes and food riots erupted again in Santo Domingo in July and August of 1987. In the same year the national debt reached $4 billion. Real wages fell 2 percent in 1987, and another 7 percent in 1988.

The loss of real income resulting from the economic crisis and austerity measures has had an adverse affect on public health and nutrition in urban low-income areas in the last decade. Residents of one of Santo Domingo's poorer neighborhoods, Villa Duarte, complained about the government's priorities: a U.S. $15 million monument was under construction while children searched through the trash for food or for objects to sell.

While the agricultural sector has remained important to the Dominican economy, it has been relatively neglected in the country's development policies. Per capita rural incomes are only about 25 percent of urban incomes, infant mortality rates are higher in rural areas and undernutrition is widespread. As a result of income disparities, the Dominican Republic has experienced rapid urbanization during the past two decades; currently 60 percent of the total population is urban. Ignoring rural poverty has exacted its price in urban slums and is reflected in the country's food deficit. The import bill for staples such as corn, beans, wheat and cooking oil rose from about $70 million in the mid-1970s to more than $120 million a year in 1980. Food aid increased nearly four times between 1980 and 1988.

One of the most promising programs for alleviating rural poverty and hunger is a grassroots program in the highlands, known as *Plan Sierra*. Most of the people in the area live in absolute poverty and suffer from undernutrition and disease. Because people use whatever resources are available to gain a living, soil erosion and deforestation have been rampant. Plan Sierra, a locally designed and managed project, focuses on providing credit to farmers, as well as reforestation and the promotion of vegetable gardens for household nutrition.

The opportunities provided by Plan Sierra are important, but are limited by changes in the context of the wider Dominican economy. In the late 1980s the country was able to temporarily stabilize the economy, but by 1990 high inflation (50 percent per annum) returned, and the overall prospects for further expanding the economy appear limited. The outlook for hungry people in the Dominican Republic is not immediately encouraging.

Haiti

In Haiti, the overexploitation of resources, deforestation and governmental neglect and corruption have undermined the rural economy and made Haiti the poorest nation in the Western Hemisphere. More than four-fifths of the country's 6.5 million people live in hunger and poverty. These people face undernutrition, illiteracy, disease, squalid surroundings, high infant mortality and low life expectancy. Hunger reaches across all regions of the country, but is twice as prevalent in rural areas where about 70 percent of the population lives.

No national nutritional survey has been conducted since 1978, but experts estimate that per capita availability of calories has not changed significantly, nor has the proportion of undernourished children.

As elsewhere, poor pre-school children and women are the most nutritionally vulnerable groups. One child dies about every five minutes from dehydration, diarrhea or other nutritionally-related problems. Recent projections from the 1978 survey data indicate that 46 percent of young children are underweight.

Women, particularly pregnant and nursing women, are especially vulnerable to the devastating and wide reaching effects of hunger in Haiti. In 1990 an estimated 1.75 million women in Haiti are undernourished. The 1978 survey found one third of all women to be anemic. At the major hospital in the capital of Port-au-Prince, 18 percent of newborns were of low birthweight.

Although poverty and hunger have long existed in Haiti, government efforts to improve the living conditions of poor people have been virtually non-existent since Francois (Papa Doc) Duvalier first assumed the presidency in 1957. Duvalier and his son, Jean Claude, who succeeded him, left a legacy of wealth amidst poverty. Policies were designed to meet the food needs of the growing and wealthier urban population. By 1987, 90 percent of Haitian government expenditures were spent in the capital of Port-au-Prince, home to only 20 percent of the population. Approximately 5 percent of Haitians, most living in Port-au-Prince, control more than 50 percent of the country's income.

While the Duvaliers and their wealthy supporters appropriated vast sums of money and sent it abroad, the majority of Haitians continued to eke out a living on small agricultural landholdings. Haiti is distinguished from other countries by the large number of smallholder plots of land owned by the rural poor. Only 1 percent of the farms are larger than 10 hectares, and these occupy the best land. Seventy-one percent of farms are less than 1.2 hectares, but occupy only one-third of the farmland. Large private and government farms are usually underutilized or primarily used for export crops such as sugar cane, sisal and rice. The government is the largest landowner in Haiti.

Many small farmers rent or sharecrop additional land from private owners or the government in order to increase their income or food consumption. It is not uncommon for a small farmer to have his land taken over by a *gros neg* (landed "big shot"), and legal recourse is virtually impossible. Credit is inaccessible to the rural poor as interest rates are prohibitively high, often 100 percent. Rural infrastructure is lacking, especially storage facilities and roads to markets. This creates a market glut at harvest times and forces small farmers to sell at the lowest prices.

Women are extremely important to Haiti's agricultural economy both in production and marketing of crops. With increasing numbers of men migrating in the early 1980s to the Dominican Republic for work as sugar cane cutters, the role of women as producers and income earners becomes increasingly important to sustaining household incomes and food security.

The Haitian tax structure has contributed to the problem of rural poverty and hunger. Under the Duvalier regime, rich people and imported luxuries were barely taxed. Imported basic necessities such as kerosene, cotton, textiles, soap, flour, fish and rice were taxed more heavily. In addition, there were heavy excise taxes on domestically produced goods.

During the 1980s, Haiti was supported with vast sums of foreign development assistance, much of it intended to alleviate the poverty and environmental problems that the government would not address. However, those externally-funded poverty alleviation programs met with limited success. One example of the ineffectiveness of anti-poverty programs is the food-for-work programs, supported by U.S. Agency for International Development (USAID) and other donors. These programs were characterized by corruption and mismanagement in the Haitian context. Food supplies addressed to be delivered to schools were traced to stores, vacant lots and cemeteries. Often the food was smuggled back to the United States and sold in Miami at low prices.

International aid agencies supported efforts to increase the production of agricultural exports such as coffee, cacao, cotton, fruit and cut flowers. However, international commodity prices have been low and government taxes on the crops have been high, cutting into profits of growers. The focus on the export market has not been balanced with seeking improvements in food production and distribution.

Popular protests against the repression, inequalities and hunger finally resulted in the overthrow of Duvalier regime in 1986. Since then, the people of Haiti have struggled unsuccessfully to remove the instability and vested interests created by years of repression and official theft. ■

United States

The United States has one of the most productive agricultural and industrial economies in the world, but those achievements have occurred while millions of citizens remain hungry. In 1990 between 18 and 20 million Americans are hungry year round—that is, chronically short of the nutrients necessary for growth and good health. Of these hungry people, 7 to 8 million are children under the age of 18, and 11 to 12 million are adults, about 2 million whom are more than 65 years of age. At least 32 million people have incomes below the official poverty level, making them vulnerable to hunger.

More than two-thirds of hungry people in the United States live in metropolitan areas, most of them in central cities. But hunger in rural areas plagues approximately five million people. The south has made significant economic strides, but its residents are more affected by hunger than any other region of the country.

Hunger is disproportionately a problem for African-American, Hispanic and Native American peoples in the United States. And within these groups, children and the elderly are especially affected, as are families headed by women of all races.

This section presents a distressing picture of hunger in the United States during the past decade. It is disturbing that during the second half of the 1980s (in the midst of a period of strong economic growth), hunger and poverty increased and disparities in wealth widened. The report looks at hunger in the context of poverty and examines the problems faced by groups of people most vulnerable to hunger. Finally, the report looks at the effectiveness of social support programs and what may be expected in the future for hungry people.

In the United States, there is no comprehensive nutrition monitoring system to assess directly the extent of hunger. Hunger estimates are based on private studies conducted in the 1980s by the Physician Task Force on Hunger, a group of doctors, health care and social service professionals. The estimates of hunger are consistent with two independent sources. The first, a Louis Harris poll conducted in 1984, estimated that there were 21 million hungry people in the United States. A follow-up poll in

1987 estimated that 17 to 18 million were hungry.

The second is ongoing studies conducted by the Food Research and Action Center (FRAC) of Washington, D.C. Known as the Community Childhood Hunger Identification Project (CCHIP), the studies have demonstrated a reliable means to accurately assess hunger among children under 12 in the United States. FRAC estimates that between 6.6 million and 10.6 million children under 12 are hungry or vulnerable to hunger. Extrapolating from these figures, the overall number of hungry people in the United States is 18 to 20 million.

Anti-hunger advocates and health professionals urged the federal government to maintain a nutrition monitoring system throughout the 1980s. Legislation to establish such a system looked promising in 1990.

Less severe definitions of poverty and hunger are appropriate in the United States than in developing countries. The box on this page explains how the U.S. poverty line is computed.

Hunger and Poverty

Hunger is one outcome among several in a complex set of problems associated with poverty. Poor people have more difficulty meeting their needs, one of which is food, and have fewer food security options than do wealthier people. At least 32 million people lived in poverty in the United States in 1988, but not all benefited from assistance programs. Access to food, affordable and secure housing, health care, education, child care, transportation and decent-paying work were all problematic for these people. Even with government food assistance programs, poverty prevents the majority of these people from meeting household maintenance needs and still having enough money to purchase adequate food. The specific link between income and hunger has been demonstrated in numerous surveys. As income increases, food intake increases.

Without a national nutrition monitoring system, an understanding of hunger trends is best examined in the context of poverty trends. Even though the United States has experienced economic growth since the mid-1980s, the state of poor Americans in the late 1980s does not offer an encouraging outlook for future poverty alleviation. In fact, the nature of the economic growth (with proportionally more low-paying jobs and a widening gap between rich and poor) is a cause of continued hunger in the United States.

The 1980s saw a number of alarming trends. First, according to a 1990 study of Congressional Budget Office data by the Center for Budget and Policy Priorities, the income of the richest one percent of Americans has been so great that the increase in their after-tax income between 1980 and 1990 will equal the total income of the poorest 20 percent of the population in 1990. "In other words, the increase in the after-tax income of the richest 2.5 million Americans will equal the total income the 50 million poorest Americans will receive in 1990."

Second, in the 1980s poor people received less government assistance and declining non-cash benefits, such as food stamps, Medicaid and housing subsidies. The average market value of noncash benefits received by poor families decreased from $4,221 in 1979 to $4,088 in 1986 (in 1986 dollars). Census Bureau data show that the proportion of poor families lifted out of poverty by government benefits has sharply declined since 1979.

Third, according to a 1990 study by Citizens for Tax Justice, the average pre-tax income for the lowest 20 percent of the population declined from $8,933 in 1977 (in 1990 dollars) to $7,725—a 14 percent decline. The average after-tax income of the poorest 20 percent of the popu-

> "...a growing number of poor households find it difficult, if not impossible, to pay the rent and utility bills and still have enough resources left over—including their food stamps—to buy sufficient food to last through the month. Since rent and utility bills are fixed, purchases for food constitute one of the first items that gets squeezed."
> —*Victor Sidel, in testimony before Congress, 1990*

The Poverty Line

Official U.S. poverty figures are derived from a poverty line that began as a food-based measure. The official poverty line was established in the mid-1960s. It was derived from a 1955 survey of food consumption in which the U.S. Department of Agriculture (USDA) found that the average American family of four spent one-third of its after-tax income on food. In defining the poverty line, officials reasoned that if the cost of an adequate diet was multiplied by three, the resulting figure would constitute an accurate "poverty line." Ultimately the lowest priced diet, called the "Economy Food Plan" (later called the Thrifty Food Plan), was chosen as the base. Each year the cost of the Economy Food Plan was determined and multiplied by three to set the official poverty line for a non-farm family of four. Adjustments for differing family sizes and situations were also made. ■

lation also declined 14 percent, from $8,085 in 1977 (in 1990 dollars) to $6,973 in 1990.

Another measure of the depth of poverty is the proportion of poor people who live on incomes *below one half* the poverty line. In 1988, almost 40 percent of poor Americans, more than 12.5 million people, lived at these income levels. This proportion was as high as that published 15 years ago by the Census Bureau. In 1979 at a similar point in the economic cycle, 8.3 million poor Americans lived at such income levels. This means that the United States in the 1980s has experienced a 50 percent increase in what some describe as America's "poorest of the poor."

Fourth, the number of people falling below the poverty line increased. In 1979 the poverty rate was 11.7 percent while in 1988 it was more than 13 percent. By comparison, unemployment rates in 1979 and 1988 were almost identical (between 5 and 6 percent). Further, the poverty rate in 1988 was higher than at any time in the 1970s (including the most severe recession years of that decade), even though during the mid- and late-1980s, the United States was in the longest peace-time recovery of the post-war period.

Poverty Trends Among Vulnerable Groups

Poverty and hunger affect some socio-economic, geographic and demographic groups more than others. Female-headed households, children, the rural poor, farmworkers, the homeless and older people are among the groups most vulnerable to hunger. While data on the nutritional status of these vulnerable groups are limited, poverty data reveal the risks they face.

Cutting across these categories, minorities in the United States have consistently suffered. Their overall economic situation did not improve in the 1980s. More than 30 percent of African-Americans in the United States lived below the poverty line throughout the decade. Poverty among Hispanic-Americans increased by nearly 20 percent between 1979 and 1988. At the end of 1980s, more than 9 million African-Americans and 5.5 million Hispanics lived in poverty in the United States, and were three times and two- and one-half times as likely, respectively, to be poor as Whites in the United States.

Female-Headed Households

Half of all poor families are headed by women—a figure that has not changed during the past 12 years. In 1988, almost half of all African-Americans and Hispanics who lived in female-headed households were poor. About two-thirds of African-American and Hispanic children who lived in female-headed households were poor.

The depth of poverty experienced by female-headed households has worsened. The proportion of these households with incomes less than half the poverty line increased from 35 percent in 1975 to 48 percent in 1986, with most of the increase coming in the 1980s. The consequence is that in 1986, the average annual cash income for nearly half the poor families headed by a woman with two children was $4,365 or less. Assuming that these families received about $4,100 in noncash benefits, the total financial resources available to them would have been less than $8,500, still below the poverty line.

Also, individuals in female-headed households (mothers and their children) experienced the greatest income loss of any group of poor people in the 1980s. And unlike most poor people who, according to studies, are poor for a short time, female-headed families have a greater tendency to be persistently poor for years on end.

The Children's Defense Fund argues that female-headed households appear more often because young males do not make adequate wages. Indeed, real income levels for males aged 20 to 24 dropped by 33 percent between 1974 and 1984. Average annual incomes for African-American males in this age group fell 44 percent during the same period. Only 48 percent of White men and 27 percent of African-American men aged 20 to 24 earned enough to support a wife and one child above the poverty line in 1984. In contrast, 64 percent of White males and 57 percent of Black males in this age group could support a family of three in 1973.

Children

One of the most sobering facts concerning poverty and hunger in America is that those most affected are children—a direct parallel to the situation in most Third World countries. And while the percentage of children affected in the United States is much lower than in the

Third World, the United States does have a higher percentage of children in poverty than Canada or the countries in Western Europe. And the situation is not getting better. From 1979 to 1988, 2.2 million more children became poor, contributing to the total of almost 12.5 million poor children in the United States in 1988.

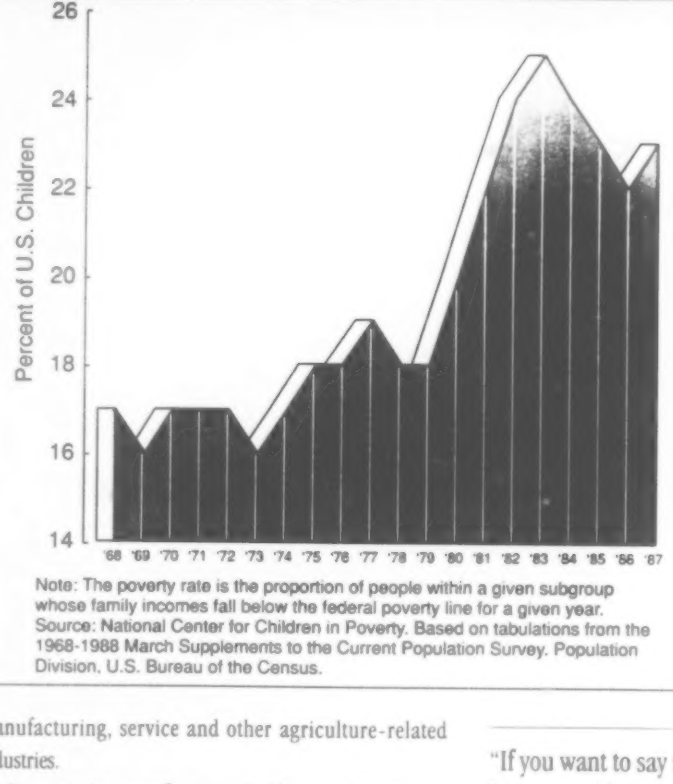
Children in minority groups are particularly vulnerable to hunger. At the end of the 1980s, half of African-American children under six lived in poverty. Forty percent of Hispanic children in the same age group lived in poverty. More than half of all poor African-American children lived in families with incomes below one half the poverty line.

Persistent poverty among children results in hunger and undernutrition. A study of 20 communities in Massachusetts conducted in 1983 found 10 percent of the children to be stunted and 12 percent anemic. Almost one in five of the children tested had some evidence of inadequate diet. The children considered most vulnerable to hunger were those living below the poverty line.

While failing to invest in poor and hungry children can certainly be criticized on moral and ethical grounds, the potential economic impact will be great on the U.S. economy in the decades to come, if we fail to invest in children now.

The children of today are the workers of tomorrow. And there are fewer children due to decreased U.S. birth rates, while a greater percentage of them are poorer than at any time in more than 20 years. These facts raise the question whether there will be an adequate labor supply which is healthy, educated and skilled to fill the jobs of tomorrow. In addition, those workers will have to support the largest pool of retirees to date (the baby boom generation). The picture becomes clearer: It is pragmatically important to invest in all children, and especially poor children.

Poverty Rates for Children Under Six, 1968-1987



Note: The poverty rate is the proportion of people within a given subgroup whose family incomes fall below the federal poverty line for a given year.
Source: National Center for Children in Poverty. Based on tabulations from the 1968-1988 March Supplements to the Current Population Survey. Population Division, U.S. Bureau of the Census.

Rural Poor

Another group hard hit by the economic forces of the 1980s were low-income people living in rural areas of the United States. From 1978 to 1987, rural poverty rates grew at twice the rate of poverty in urban areas. Between 6 and 8 percent of the rural poor are farmers or live on farms, while the vast majority of rural people are employed in a wide range of rural-based industries, including mining, manufacturing, service and other agriculture-related industries.

Poverty rates went from nearly 14 percent in 1979 to more than 18 percent from 1983 on, only dropping to 17 percent in 1987 when the economic recovery was in its fifth year. For the first time in several decades, the 18 percent rural poverty rate surpassed the poverty rate for the country's central cities in 1986. Between 1979 and 1983, those affected by rural poverty jumped by almost a third; an additional 3.6 million rural people became poor.

The rural poor seem less vulnerable to hunger and poverty than their urban counterparts. They are more likely to have a job and nearly twice as likely to live in households with two parents present. At the same time they are more underserved by government assistance programs due to a variety of factors, including the location of services and the stigma attached to welfare assistance. As a result they are less likely to receive food stamps, school lunches,

"If you want to say what's the biggest problem in America, and you want to put it in two very short words, it's poor kids." —*Ben J. Wattenberg American Enterprise Institute*

AFDC, Medicaid and Supplemental Security Income, when needed.

The lower incomes and lack of participation in government nutrition and income-maintenance programs result in tangible nutritional and health deficiencies. Stunted growth as a result of chronic malnutrition among rural poor children occurs nearly three times as frequently as among non-poor children nationwide. Infant mortality and low birthweight rates in rural poor counties are considerably higher than national rates, and they increased during the 1980s. By 1983, rates were more than 50 percent higher in rural poor counties than in the rest of the nation.

Farmworkers

A significant subgroup of the rural working poor in this country is the farmworker, particularly migrant farmworkers (who also tend to be minorities). There are approximately 800,000 *migrant* farmworkers (those who travel away from their home) and their dependents, and nearly two million *seasonal* farmworkers (those who work in close proximity to their home) and dependents. Many U.S. farmworkers are not covered by most labor legislation regarding minimum wages and working conditions. Not surprisingly, their income levels are low. Some studies have found that more than 90 percent live below the poverty line. A 1988 survey by the Department of Agriculture found the average annual income of farmworkers was $5,291.

In 1986, the House Select Committee on Hunger concluded that "...the incidence of malnutrition among migrants is higher than any other subpopulation in the country." Farmworkers in Texas are "subjected to extreme poverty, malnutrition and undernourishment....These conditions clearly identify a population at risk, living in a 'third world country,' unfortunately and sadly this third world is in the United States." Other research has found that migrant farmworkers have an unusually high prevalence of parasite infestation, anemia and nutritional deficiencies.

Native Americans

Food shortages are a regular part of the lives of many Native American peoples. A survey on the Pine Ridge Reservation in South Dakota in 1989 found more than 40 percent of households experienced food shortages at some point during every month. The poor nutritional quality of the foods consumed causes obesity, heart disease and hypertension. Federal food assistance programs operate in tribal lands, but do not fully provide sufficient or appropriate foods for specific needs. Nevertheless, many Native American households experience a long-term dependence on food assistance programs to survive. Underlying the poor nutritional status of Native Americans is high unemployment rates. Between half and three-quarters of potential workers are unemployed. Household incomes almost inevitably are below the national poverty line. Reservations are located in remote, often desolate areas, and travel to places where work can be found is expensive. Local food prices are high, further adding to people's poverty.

Homeless People

The recession and budget cuts (especially in low-income housing programs) of the early 1980s precipitated the reappearance of homelessness in the United States at levels unseen since the Depression of the 1930s. High levels persisted throughout the decade, even after the economy began to recover and unemployment dropped. Federal low-income housing dropped 80 percent between 1978 and 1988. The experience of homelessness brought with it the reality of hunger. In a study by the Urban Institute, 37 percent of homeless people reported eating one meal or less per day, and 36 percent reported going without food at least one day a week. Meals were often unbalanced nutritionally.

The homeless as a group are not served well by government income support programs. In the early 1980s, the homeless were not eligible for the food stamp program because regulations required potential recipients to have cooking facilities and permanent mailing addresses. But even with changes in the late 1980s, which allowed homeless people to receive food stamps, participation levels remained low. An Urban Institute study found only 15 percent of single homeless people receive food stamps.

The Urban Institute study also found that income levels of homeless people are so low that, when coupled with low participation in government food programs, the chance for an adequate diet is virtually impossible. The study found average cash monthly incomes of $146 for single homeless people (who make up 77 percent of the homeless population) and $300 per month for homeless families.

Estimates of the number of homeless vary widely, and range from 350,000 to 3 million. Governmental bodies have not been required to document the number or conditions of homeless people. The 1990 census is attempting to provide some information on the extent of homelessness, but homeless advocates doubt the accuracy of the count. Nor are the number of homeless people included in estimates of the number of hungry people. But regardless of exact numbers, it is clear that homelessness increased dramatically in the 1980s and remains at high levels as we enter the 1990s. Recent studies have found that millions of citizens are on the brink of homelessness and extremely vulnerable to hunger.

Older People

One of the few areas of encouragement in the 1980s is the improved economic and nutritional condition of older people in the United States. Historically, the poverty rate of older people (65 or over) has been higher than that of the total population. But in 1983, for the first time in history, the rate of older people in poverty dropped below the poverty rate for the general population, and remained at a record low level of about 12 percent through 1988. As recently as 1970, the poverty rate of the elderly population was nearly 25 percent, so the rate was halved in less than 20 years.

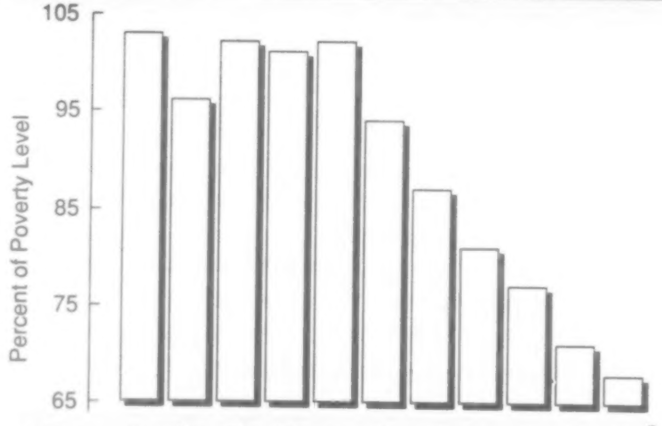
Much of the progress can be attributed to increases in Social Security benefits and coverage and to regular cost-of-living adjustments in Social Security. The Supplemental Security Income (SSI) program for older and disabled poor people, started in 1974, has also been a major factor. Recipients of both Social Security and SSI experienced real income increases during the 1980s. At the same time, the interests of older Americans have been effectively represented by their own advocacy and education groups, such as the American Association of Retired Persons.

But even with these improvements, a cautionary word must be raised. Many of the elderly have incomes that are just above the poverty line, and any significant changes or cuts in Social Security and SSI would result in a large number of the elderly falling back below the poverty line and thus becoming more vulnerable to hunger.

Furthermore, certain subgroups still experience extremely high poverty rates. The poverty rate among elderly African-Americans and Hispanics is about three times higher than for elderly Whites. More than half of elderly African-American women who live alone are in poverty.

Even with the general improvements in the situation of older Americans, the poverty among the elderly population of the United States still results in hunger. A recent study in the state of Washington found that half of the senior citizens surveyed did not always have money enough to buy the food they needed. One in 15 older people had gone without food at least one day in the previous month, and one in five would have done so without the services of the community Senior Nutrition Program.

United States: Minimum Wage as a Percentage of Poverty Level 1970-1989



Year	Hourly Minimum Wage	Three Person Poverty Level
1970	$1.60	$3,099
1972	$1.60	$3,339
1974	$2.00	$3.936
1976	$2.30	$4,540
1978	$2.65	$5,201
1980	$3.10	$6,565
1982	$3.35	$7,693
1984	$3.35	$8,277
1986	$3.35	$8,737
1988	$3.35	$9,418
1989	$3.35	$9,795

Source: Children's Defense Fund

Employment and Hunger

It is commonly assumed that employment is an assurance against hunger and poverty. Yet people who work regularly but remain poor comprise the fastest growing subgroup of people in poverty. The number of people whose earnings left them in poverty swelled from 6.5 million in 1979 to nearly 9 million in 1986, an increase of 36 percent. Changes in the economy and the workplace have left nearly 10 million poor workers and their families vulnerable to hunger.

Trends in wage rates and employment portray the contradictions of "working but poor." Inflation-adjusted average hourly earnings were lower in 1987 than 1979. For those workers receiving the federally-mandated minimum wage, the eroding buying power of their wages has been especially difficult. The minimum wage remained at $3.35 per hour from 1981 until 1990. By late 1989, the minimum wage (after adjusting for inflation) had fallen in purchasing power every year since 1978, and was at its lowest level since 1949. During the 1960s and 1970s, full-time year-round work at the minimum wage generally lifted a family of three above the poverty line. In 1989, work at the mini-

CASE STUDY

Midwest Farmworkers-Model for Change

Laboring amid an abundance of food, farmworkers commonly suffer from undernutrition and hunger. Farmworkers themselves have struggled for years to improve their wages and working conditions. This case study looks at their efforts in the midwest.

The groundbreaking work of the United Farm Workers (UFW) in the western and southwestern United States is well known. Other organizing efforts among migrant farmworkers in the midwest, particularly by the Farm Labor Organizing Committee (FLOC), have gained tremendous momentum in recent years after more than 20 years of grassroots organizing. FLOC's work among tomato and cucumber workers in Ohio and Michigan has been led by their president, Baldemar Velasquez, who founded FLOC with his father in 1967. As with the United Farm Workers, nonviolence is at the center of FLOC's work.

One farmworker named Higinio, who observed the work of FLOC for six years before joining the union, notes its role:

> *We [farmworkers] come 1,000 miles, and waste our money. Growers don't give us anything. We come here, and all they say is, 'Here are the rows. Start working.' They don't care anything for us. FLOC is good for us. They fight for better housing, better wages.*

But for Higinio, FLOC is more than a labor union. It is "*un movimiento*" — a movement that involves farmworkers in the decisions which influence their lives.

Since 1986, FLOC has signed several three-way labor contracts between farmworkers, growers and food processors such as Campbell's and Heinz. The contracts are precedent setting and were achieved by mobilizing farmworkers and thousands of supporters into a successful *movimiento*.

As the head of FLOC (and a farmworker), Velasquez bargained from the belief that in order for farmworker's wages, benefits and living conditions to improve, the growers who employed the farmworkers—and operated on narrow profit margins and huge capital investments—had to be assured of steady markets for their crops. And the major food processors were the only ready buyers for the tomatoes and cucumbers that the farmers produced. Processors had to be a part of any agreements to ensure that farmworkers could achieve their goals.

The signing of the first contracts in 1986 came after years of organizing and struggle. Back in the late 1960s FLOC had focused on the growers, who provided the shacks in the farmworker camps and paid the poverty wages. During the early years there were some victories and growth in the union. It also became clear that the large food processing and marketing corporations such as Campbell's and Heinz, which set pre-season price structures and dictated crop production standards, were a critical link in the process of poverty. The corporations denied any direct responsibility for the well-being of the farmworkers. They argued that they could not interfere in the affairs of the growers who employed the farmworkers.

mum wage left a family of three with an income only 75 percent of the poverty line (some $2,900 below the poverty line).

The incremental minimum wage increases that began in 1990 are not indexed to the rate of inflation or growth in other wages. Further increases in the minimum wage are unlikely during the early 1990s. Also, an important factor that continues to hold down wages is the ease with which businesses move many hourly-wage manufacturing jobs to plants in the Third World, thereby increasing competition among all workers. It is therefore likely that workers laboring at or near the minimum wage will not be able to bring home an above poverty-line-wage for many years to come. Hunger, or at least the threat of hunger, will probably be with them throughout most of the 1990s.

Employment trends are also discouraging. First, average unemployment rates have increased, from 4.6 percent at the end of the 1960s to 6.2 percent in 1987. In mid-1990 the unemployment rate remained more than 5 percent. Second, while some analysts claim that the United States' economy in the 1980s created new jobs at an annual rate that was slightly less than in the two previous decades, the

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FLOC decided to strengthen its support base. The union turned to broad community organizing projects such as gas and food cooperatives and legal aid programs for farmworkers. This work dominated FLOC's agenda during the early and mid-1970s. During this time, the membership of FLOC grew to around 700. Most of the members were seasonal farmworkers who lived in FLOC's base area of northwest Ohio.

In the spring of 1978, FLOC tried to negotiate with both the growers and the food processing corporations to discuss farmworkers' living conditions and wages. Not one of the corporations and only a small percentage of the growers responded to FLOC's letters. In response, 2,300 farmworkers went on to strike against the farms in northwest Ohio which supplied tomatoes to Campbell's and Libby.

The strikers picketed the canneries and the tomato fields. FLOC held rallies and organized marches. Velasquez went on a hunger strike in support of the farmworkers. As a result, many workers left the fields, and when the summer season was over, about 25 percent of the local tomato crop had not been harvested.

As the strike continued into 1979, Campbell made a fateful decision. They mandated that the 90 farms from which they bought tomatoes would have to mechanize. This move lessened the demand for farmworkers to hand-pick the tomato fields. For the growers, the decision would reduce the size and quality of the tomatoes harvested and would require huge capital investments. When Campbell's laid down this mandate, only a small percentage of tomatoes in northwest Ohio were machine harvested. By 1982, more than 85 percent were harvested by machines.

FLOC took the position that they were not opposed to machine harvesting. Velasquez noted that stoop labor was not a favored pose of farmworkers! But FLOC did demand that farmworkers displaced by mechanization should be given first chance at the new jobs of operating the harvesters. It also called for retraining of workers who had lost their jobs because of the mechanization.

During the summer harvesting season of 1979, harassment and intimidation of striking farmworkers was common. A lawyer for FLOC was severely beaten when he was inquiring about the status of some arrested strikers. As has always been the case, justice for the farmworkers came only with struggle. FLOC announced a consumer boycott of all Campbell's products including Vlasic pickles, Swanson's frozen dinners, and Pepperidge Farms foods.

Many labor unions and religious groups donated funds and urged their members to support the boycott. The boycott and struggle with Campbell's was to continue for seven years. It was estimated at the height of the boycott that more than a million Americans boycotted Campbell's products in support of FLOC workers.

In 1982, the Ohio Council of Churches endorsed the boycott, urging Campbell's to enter into talks with farmworkers and the growers. At the same time, the Catholic Archdiocese of Boston called for talks between Campbell's and FLOC. Some of those initial talks resulted in an offer by Campbell's to fund several farmworker welfare projects through FLOC. The union refused, arguing that Campbell's was making unilateral decisions in which the farmworkers had no input; a central tenet of the union was that the farmworkers were to have a voice in determining their own working conditions.

In 1983 FLOC was drawn into the "sharecropping" issue in the cucumber fields. The cucumber harvest was part of the annual cycle, coming before the tomato harvest. It was general practice in the cucumber industry for farmworkers to be hired as "indepen-

Continued on next page

difference is that most of the new jobs have been in lower paying industries and services. One recent study found that during the 1979-1987 period more than half the new jobs paid less than $11,611 (adjusted for inflation), a poverty level wage. Although 10 million new jobs were created, the number of jobs declined in industries such as steel and auto assembly, which tend to pay higher, average wages and have strong union representation. Industries in which employment rates grew, paid on average, $10,000 less than industries in which employment rates were contracting.

The impact of employment at lower wages has been especially felt among younger workers. Wages tend to be relatively lower, work benefits less assured, and options for advancement and increasing financial security more limited.

Collapse of the Safety Net

One of the central responsibilities of all governments is to provide basic services that are not available elsewhere or not available to specific groups in society. Yet during the late 1970s and through the 1980s, the United States altered its spending priorities to expand the national defense establishment, while cutting back on social services. The defense budget expanded from $135 billion in 1978 to more than $300 billion in the late 1980s, a 50 percent increase when adjusted for inflation. If such things as interest on past wars and veterans benefits are added, total military-related spending constitutes more than half the federal budget in fiscal year 1990.

Political and business leaders chose to make cutbacks

Continued from previous page

dent contractors" and receive half of the proceeds for the cucumbers they picked. But this "sharecropping" arrangement meant that the farmworkers were not "employees" of the growers, and labor laws and rules, which applied to the farmworkers in other jobs, were circumvented. Child labor laws could not be enforced because the growers were not seen as employers of the children working in the fields. There was no unemployment or workers' compensation coverage. And perhaps the most devastating aspect of the "sharecropping" arrangement was that taxes were not withheld. Many workers did not know that they had to file self-employment taxes, and that the tax rates for the self-employed were much higher. The result was that many farmworkers owed back taxes plus penalties and interest. FLOC developed a campaign around the child labor issue as part of the Campbell's boycott.

By 1984, significant support had been mobilized for FLOC. Hundreds of labor, religious, civic and political groups had formally endorsed the boycott. The boycott reached a new peak when the National Council of Churches recommended an endorsement of the boycott if Campbell's did not resolve the dispute by May 1985. Intense negotiation between the union and Campbell's began early in 1985, and by May, FLOC and Campbell's signed a formal Statement of Understanding, which included two major provisions. The first was the establishment of a private labor relations commission to deal with farmworker issues. The commission would set rules for union elections, deal with labor grievances, and serve as mediator. The second provision was that Campbell's would cooperate in the formation of associations of its tomato and cucumber growers in Ohio and Michigan. These associations would participate in three-way talks with Campbell's and the farmworkers.

The first elections among tomato workers were held in the summer of 1985. Out of those elections, in which FLOC won a substantial majority, came the first three-way labor contracts between FLOC, Campbell's and growers. Those first contracts covered 800 workers and set the stage for many advances that have transpired since then. Only days after the signing of the first agreement, Heinz publicly expressed a willingness to talk with FLOC. In 1987, three-way contracts were signed with Heinz and their growers.

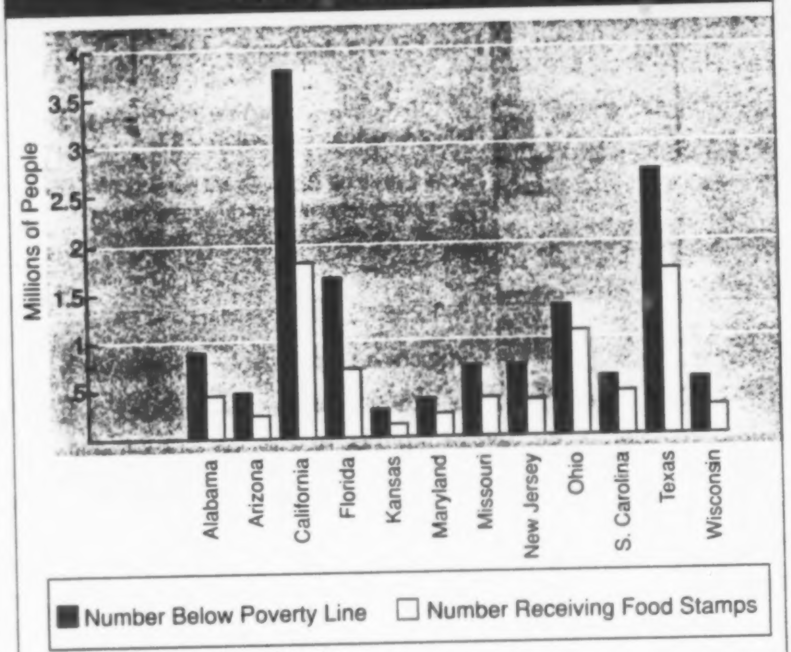
These contracts resulted in significant gains for farmworkers. Wages are now more than double the level in 1978. Grievance procedures, health care, housing and sanitation facilities, pesticide usage, day care and holiday leave have all improved. The "sharecropping" system is being investigated, and some pilot projects involving changes in the system have been implemented. But probably the most important gain was that farmworker participation in determining wages and benefits had been established. The physical hunger which had haunted them for so long was turned into a hunger for justice and a hunger for control over their own lives.

Disputes, disagreements and struggle have been a part of the process every step of the way, but agreements have been reached and disputes worked out. By the 1989 season, FLOC represented more than 3,300 workers in Ohio and Michigan. New three-way agreements were signed in November of 1989 with Campbell's and their growers. ■

in social programs in order to bolster the U.S. strategic military position vis-a-vis the Soviet Union and cut taxes. Analyses done by the Congressional Budget Office of the U.S. Congress found that while programs aimed at low-income people usually make up 10 percent of the federal budget, those same programs bore nearly 33 percent of the budget cuts passed between 1981 and 1983. No other part of the federal budget was cut so sharply. These shifts in national priorities occurred at the time the economy was adjusting and placed low-income and hungry people at ever greater disadvantage. One look at the consequences of the social services cuts on the welfare of poor and hungry people leads to the unequivocal conclusion that these already vulnerable people were badly hurt in the process. The "safety net" of government support simply did not function well for them.

United States: Poverty and Food Assistance

Selective States, 1988-89



Source: U.S. Department of Agriculture

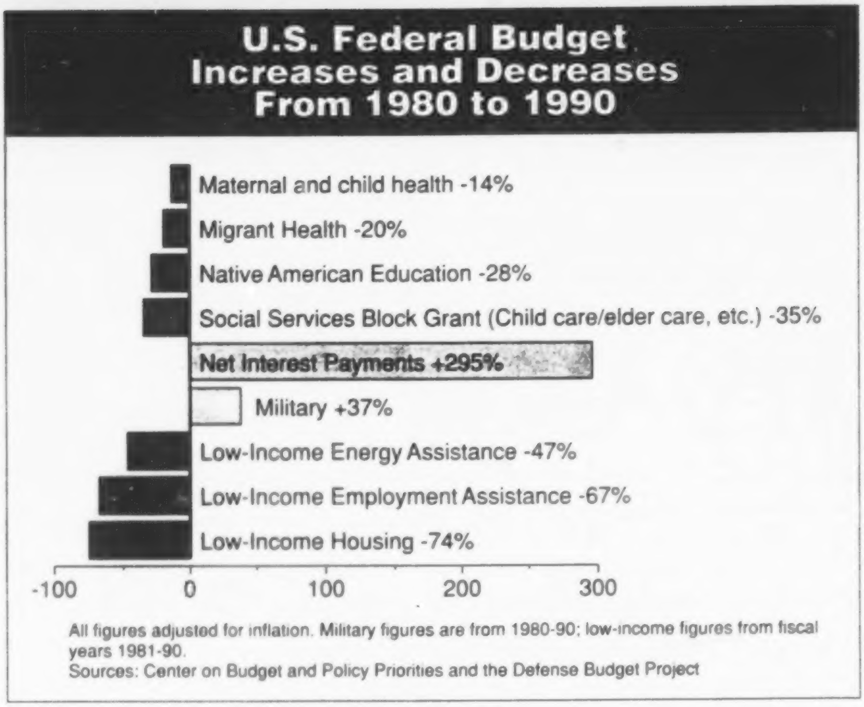
Food Assistance Programs

Many of the programs affected by the changing federal spending priorities were those that provide direct food assistance to low-income people to supplement their nutritional status. The food stamp program, which was widely acknowledged to have contributed to reductions in U.S. hunger during the 1970s, was cut $2 billion a year below previous benefit levels during the four-year period 1982 to 1985. While the number of poor people in the United States *increased* by 3.2 million between 1980 and 1987, almost one million people were cut from the food stamp rolls. Nearly all others had their benefits reduced and suffered an inflation-adjusted loss in food purchasing power. Many recipients who were just above the poverty line, but formerly were eligible for food stamp assistance, were completely cut off the program. About two-thirds of the dollars cut from the program came from reducing benefits for families who were already below the poverty line and, by definition, already nutritionally at risk.

Poor children constitute half of all food stamp beneficiaries. When the elderly poor and disabled are added in, these three groups account for more than two-thirds of all food stamp recipients. Food stamp households in 1984 had average gross incomes of $390 per month ($4,680 annually) and average cash assets of $58.

Modest restorations in the food stamps program were made in 1985 and 1987 (about $200 million in each year), but between 1981 and 1987, the food stamp budget fell, in real terms, by 35 percent. People who need food stamps are less likely to get them in 1990 than they were in 1980. President Reagan's 1984 Taskforce on Food Assistance estimated that 10 to 13 million Americans were not receiving food stamps even though they were eligible. The single most important reason for nonparticipation was found to be lack of knowledge about eligibility and application procedure. Yet the 1981 Budget Reconciliation Act cut outreach funds. In 1990, about 40 percent of the people eligible to receive food stamps did not get them.

In addition to reductions in food stamps, five federal food programs that exclusively serve children (the school lunch, school breakfast, child care food, summer food, and special milk programs), were cut by 29 percent between 1982 and 1985. Minor restorations were made in the late 1980s. In the school lunch program alone, almost 700,000



U.S. Federal Budget Increases and Decreases From 1980 to 1990

All figures adjusted for inflation. Military figures are from 1980-90; low-income figures from fiscal years 1981-90.
Sources: Center on Budget and Policy Priorities and the Defense Budget Project

low-income children stopped receiving free or reduced-price lunches. The overall reduction in support resulted in as many as 2,000 schools dropping the program, often leaving their low-income students without access to free meals. These changes occurred despite USDA studies which found that school lunches improve the nutritional status of school children, with the greatest improvements among low-income children.

In 1987, the average family headed by someone between the ages of 25 and 34 had an income 9 percent lower than their counterparts in 1973. Young families, in general are now experiencing much slower growth than their parents did....

About the only nutrition program that escaped the cuts during the early 1980s was the Special Supplemental Food Program for Women, Infants, and Children, better known as WIC. Eligibility for WIC is determined on the basis of income and nutritional status. This program, begun in 1972, is the most proven and cost-effective federal nutrition program. Low-income children not enrolled in WIC have a significantly higher prevalence of anemia than those who are enrolled. There is wide and almost unanimous support of WIC in the health community. However, even with strong support, because of inadequate funding, WIC only serves about 60 percent of those eligible. The U.S. Congress has been unwilling to make WIC an entitlement program which would automatically provide funding for all people who are eligible. Therefore, funding for WIC is considered on an annual basis as a part of the budget process and must compete with other programs for funds. In late 1989, Congress passed a $118 million increase in funding for WIC to enable about 230,000 more people (about a 5 percent increase) to be served, although unanticipated food price inflation in 1990 threatens to lower the number of people served.

Income Assistance

Some of the most severe budget cuts of the Reagan years were in Aid to Families with Dependent Children (AFDC). This is the basic public assistance or "welfare" program in the United States for poor, single-parent families with children. For about one-third of the American poor, this program, funded with state and federal monies and administered at a state level, constitutes the major, if not the sole, source of cash income.

One government study in the early 1980s found that budget cuts eliminated 440,000 low-income working families (most of them female-headed) from the AFDC program while reducing benefits for several hundred thousand additional low-income working families who remained on the program. In four of the five metropolitan areas examined in this study, more than half of the families terminated from AFDC had run out of food at least once and had no money to buy more. The overall income of these families which were already near the poverty line fell an average of $1,500 to $2,600 a year. Further, the study found that 80 percent of the families terminated were still living below the poverty line two years after they were terminated from the program.

The cuts in the early 1980s exacerbated already low benefit levels. In 1987, there was no state in which AFDC and food stamp benefits together reached the poverty level;

41 states provided combined benefits which were less than 75 percent of the poverty level. During a longer period, 1970 to 1987, families on AFDC saw the purchasing power of their maximum cash benefits drop by an average of about one-third. By contrast during this same period, Social Security payments and SSI (Supplemental Security Income) kept up with inflation, creating a dichotomy in which basic needs are assured for some, but not for all, citizens.

Potential changes in AFDC may arise from implementation of the Family Support Act, the welfare reform legislation passed in 1988. The law seeks to enforce child support payments, improve work and training programs for welfare recipients and improve provisions for medical assistance and day care. However, federal funding for these changes is inadequate. Implementation will occur at the state level, which also raises concerns about differentials in emphasis and oversight.

Taxes on Low-Income People

One area of possible hope for poor and hungry people in the 1990s is in federal income taxes. The Tax Reform Act of 1986 gave significant relief to low-income Americans through an earned income tax credit. There is increasing discussion that the earned income tax credit is one of the most promising avenues for offering support to low-income people in the 1990s. However, income taxes are only a part of the total tax burden. The total federal tax burden in 1990 for the poorest fifth of the U.S. population (including payroll and excise taxes) is nearly 21 percent higher than in 1977. Also, state and local tax burdens became more regressive during the 1980s.

Future Trends

Looking to the 1990s and the prospects for poor and hungry people in the United States, five main trends are discernable.

1. Current funding levels for government food programs (such as food stamps, WIC, school lunch), that have proven to be effective in reducing hunger, will be insufficient to overcome the worst aspects of hunger and enable those people most in need to be served.

2. As the number of children in poverty increases, especially those living in households headed by women (who tend to be the poorest of the poor), their vulnerability to hunger will remain critical during the next several years.

The impact on children of the Family Support Act that passed in late 1988 remains to be seen, mainly due to inadequate funding. The act puts a strong emphasis on moving people off welfare and providing them with the necessary support—child care, job placement, work incentives, health care. Much of the way these reforms will be structured and enacted will be done at the state level, so much of the responsibility rests there.

3. The situation of the working poor shows few signs of improving during the next several years. Employment trends demonstrate that while jobs may be available, too often the jobs will offer inadequate wages, minimal benefits and few opportunities for advancement.

4. Equally important in the long-term is the growing disparity between wealthy and low-income Americans. Unless progressive changes are made in the tax system, this disparity will continue to grow.

5. The plight of specific vulnerable groups (women, minorities, the rural poor, the homeless, farmworkers) will likely continue. Racial and gender discrimination, in many instances, determines job opportunities and wages.

Conclusions

The horror of hunger and poverty on a mass scale emerges vividly from the country studies in this report. Statistics on stunted children at the country level and accounts of particular wars and injustices make the reality of more than half a billion suffering people specific and compelling.

The picture which emerges from Asia is mixed. The largest concentration of hunger in the world is in south Asia (India, Bangladesh, Pakistan and Nepal), but these nations have achieved progress on some aspects of development that are important to poor people. Armed conflict has contributed to hunger throughout Asia, and several countries (notably Cambodia and Afghanistan) are ravaged by war today. At the same time, some Asian nations (such as China, Korea, Thailand and Indonesia) have been remarkably successful in reducing poverty and hunger.

In Africa, hunger is on the increase. The wars of northeast and southern Africa are provoking famine again this year (affecting an estimated 20 million people) and make progress against poverty impossible. More generally, ineffective and often corrupt governments have taken their toll. Adverse conditions in the world economy, especially low prices for African commodities, have also contributed to pervasive economic decline. The economic reforms which some governments have adopted to cope with the crisis may be necessary, but have brought additional problems.

The distribution of wealth is exceptionally uneven in most countries of Latin America. As Latin American economies expanded in the 1960s and 1970s, some of the benefits trickled down to poor people. But the international debt crisis threw Latin America into financial and economic crisis during the 1980s. Poverty has increased, and the crisis is far from over. In Central America, war has exacerbated hunger and poverty.

Hunger is not only a Third World phenomenon. In the United States, there are 18 to 20 million people who are so poor that they sometimes go without food, and hunger has been increasing. In several eastern European countries and the Soviet Union, food aid and food imports are crucial to food security. Hunger does exist in the Soviet Union, and the absence of sufficient food and other basic consumer goods underlies many of the economic and political changes occurring there now.

There are many causes of hunger, and they vary from country to country. The policies needed for progress against hunger also vary. In Ethiopia, the most pressing issue is peace. In Brazil, the pressing issues are international debt, economic mismanagement and social injustice. In the United States, the most pressing issues are a lack of commitment to providing jobs with adequate pay and benefits and insufficient funding for social programs that have proven their worth.

Hunger is not an outcome of one particular type of governmental system. Both China and its capitalist neighbors (Taiwan, South Korea and others) have made progress against hunger. While Cuba has virtually eliminated hunger, Tanzania's socialist experiments have not succeeded. The policies of Pinochet in Chile were harsh toward low-income groups in many respects, but included some effective programs for needy people.

Most, perhaps all, governments claim that alleviating hunger and poverty is a high priority, but their development plans and budgets often fail to reflect this. The persistence of hunger in 1990 suggests that other priorities, such as military might and luxury consumption have overshadowed efforts to reduce hunger. *Hunger 1990* documents cases of progress against hunger—country-wide progress against poverty in some countries, various grassroots efforts to solve local problems, and aid-assisted programs that are working. It also documents well-intended efforts that failed and, more often, cruel neglect.

Guidelines for Action

Six action-oriented conclusions emerge from the country studies in *Hunger 1990*:

1 ***Militarization is a primary cause of hunger.*** *Military spending should be reduced in developing and developed nations alike; most of the savings should be redirected to meet human and development needs.*

The country studies for Cambodia, Afghanistan, northeast and southern Africa, and Central America all show that war results in severe hunger. Civilians become pawns in a lethal game of chess, and starvation may ensue. War uproots people from their homes and farms, and often from their countries. It also destroys physical resources. Where war is ongoing, it precludes economic and social progress.

Some of the country studies discuss the long-term impact of war on hunger. Bangladesh is still scarred by the violence which took place during the partition of India and the 1971 war for independence from Pakistan. Jordan's social problems are partly rooted in past conflict with Israel.

The United States illustrates the trade-off between military spending and human needs. A $300 billion defense budget has helped to reduce spending on food assistance, housing and job training. Bangladesh illustrates the human costs of the same trade-off in a poor country.

Democracy does not automatically guarantee progress against poverty (as Brazil's recent floundering illustrates), and some military-dominated governments (in Indonesia, for example) have made progress against poverty. But some of the country studies illustrate problems for poor people which often stem from military governments. Bangladesh is a case in point. Many African governments rely heavily on force to stay in power, which partly explains why many African governments have served their citizens so poorly.

Programs and policies that put people first have little opportunity for success when repression and violence prevail. The hunger and poverty that give rise to demands for agrarian and economic reforms are often resisted by those in power who see change as a threat to their wealth and privileges. They may respond by expanding their military power, dealing with symptoms rather than causes of social unrest. Democratic debate is stifled on issues related to land, economic policies and development projects. Sometimes private assistance is blocked. Hunger grows.

2 National and international development efforts have often overlooked women's needs and skills. *Women should be full participants in the design and execution of programs to reduce hunger and its structural causes.*

Women and children suffer most from hunger. Women are usually responsible for the home and family, so their work, including the income they earn outside the home, is often important to reducing hunger. Yet cultural traditions and development policies often discriminate against women.

A number of country studies discuss cultural traditions which oppress or limit women. In parts of south Asia, sexual discrimination within poor households result in more deaths among girls than boys. Several Latin American studies note the down-side of women entering the waged workforce. A low-income Latin American family is constrained in many ways, and an overloaded mother may result in poor nutrition for the household.

National and international development efforts have often overlooked women's needs and skills. Schools serve boys more than girls. Programs of agricultural extension and land titling often discriminate against women. If development programs are discussed, women are seldom consulted. This situation occurs frequently in African agriculture where women do most of the farming, while most assistance programs relate primarily to men. On the positive side, the country studies also mention some promising development initiatives by—and projects that benefit women especially—the Green Zones of Mozambique, the *comedores populares* of Peru such as the Grameen Bank in Bangladesh.

3 Environmental destruction, rapid population growth, and hunger are closely related. *Plans to protect fragile ecosystems must be integrated with plans to meet urgent social needs, and vice versa.*

Many of the problems that developing countries face are more ominous due to population growth. Inadequate access to land, a major cause of hunger, usually gets worse as populations grow. Plots, already too small to feed a family, are subdivided from one generation to the next. As the number of landless people swells, rural wages are likely to fall.

While population growth contributes to poverty, the most effective way to reduce population growth is to reduce poverty. Family planning services are important, but improvements in child health and women's education are just as important, because they influence how many children couples *want* to have. In general, as people escape from poverty, they tend to reduce the size of their families.

Many hungry people subsist in environmentally fragile areas, and as Worldwatch Institute's *The State of the World* noted:

> *Poverty drives ecological deterioration when desperate people overexploit their resource base, sacrificing the future to salvage the present. The cruel logic of short-term needs forces landless families to raze plots in the rain forest, plow steep slopes, and shorten fallow periods. Ecological decline, in turn, perpetuates poverty, as degraded ecosystems offer diminishing yields to their poor inhabitants. A downward spiral of economic deprivation and ecological degradation takes hold.*

Hunger 1990 cites many examples of the interconnection among environment, population growth and hunger: soil erosion in China's poorest province (Gansu); deforestation in northeast Thailand and on the volcanic hills of the Philippines; overpopulation in Java and the Indonesian government's program to resettle people in rainforest areas; the growing strain on Egypt's ancient ecosystem; and the links between Brazil's international debt, widespread landlessness, and incursions into the Amazon.

Plan Sierra, a successful tree-planting program in the Dominican Republic, illustrates an important general point: Protection of fragile ecosystems in developing countries only becomes possible if urgent social needs are met at the same time. Many people in the United States see rapid population growth in the developing world as an important problem, and U.S. public concern about environmental problems in the developing world is growing rapidly. But population and environmental problems will not be effectively reduced until poverty and hunger are also reduced.

4 *Economic growth is an important part of overcoming poverty, but is not enough.* *National programs for economic and human resource development must target poor people and ensure their access to basic social services, land and other productivity-enhancing resources.*

In every country that has sustained substantial progress against poverty and hunger, this has been achieved in the context of general economic growth. Overall economic decline in Africa and Latin America has resulted in widening poverty and hunger. The reasons for the decline include poorly-conceived policies, administrative failure, conditions beyond the control of individual governments, or most likely, some combination of them all.

Yet economic growth does not necessarily help the poor, as illustrated by Brazil's "economic miracle" period or, even more clearly, by the United States right now. Other key variables include the availability and quality of health and education services. China and Cuba score high marks on this account. So do Sri Lanka and the state of Kerala in India, although Sri Lanka's experience also suggests the importance of a dynamic economy to sustain social services.

In many countries, hunger and landlessness are linked. It is hard to imagine eliminating hunger in the Philippines, for example, without successful land reform. Yet the country cases cite various attempts at land reform (Vietnam, Ethiopia, El Salvador) which have been disappointing. The successes they cite (China, Cuba, Zimbabwe) took place in the context of major social transformations.

Governments have more often succeeded in reaching low-income farmers with productivity-enhancing investments. For example, rural roads reduce transport costs, so that farmers pay less for fertilizer and other inputs and get a better price for what they produce. Poverty continued to decline in Indonesia in the 1980s, despite Indonesia's financial crisis, partly because the government gave priority to investments in rural development when it had to cut public spending generally.

5 Progress against hunger and poverty depends mainly on the initiative of poor people and others in the developing countries. *International assistance should support national programs which build on what people are doing for themselves.*

The world's hungry or vulnerable people, who may total one billion, receive relatively little help from anybody. In fact, better-off people often take advantage of those who are poor. For the most part, poor people survive because of their own efforts and ingenuity, often collaborating with others who are poor. The country studies repeatedly mention mass movements of poor people toward economic opportunity (to cities everywhere and often across international borders). Such migration may result in social problems, but is a visible example of initiative and risk-taking among poor people.

Many of the better development projects support the initiatives of poor people or are themselves the result of such initiatives. The Grameen (Rural) Bank which lends very small amounts of capital to groups of landless microentrepreneurs in Bangladesh is an example of the former, while the Six S peasant movement in The Sahel illustrates the latter. *Hunger 1990* also attaches great hope to progressive political movements, such as the farmers who are pressing for land reform in the Philippines or the people who dare work for political change in Zaire.

In recent years, thousands of organized groups and popular movements have emerged in Asia, Africa, Latin America, North America and Europe, all struggling against hunger and related social problems. Some groups are involved in grassroots struggles to protect land and environment or to ensure adequate wages and health facilities. Others press for improvements in government policies and programs. Some private and public development agencies from the industrial countries work closely with grassroots groups.

This growing web of grassroots organizations is related to uneven, but generally spreading, democracy among developing countries. Newly democratic governments and today's widespread awareness of the limitations of public bureaucracies have added momentum to the growth of nongovernmental organizations. National governments and international donors are beginning to pay more attention to the experiences, ideas and initiatives of grassroots groups.

6 Industrial country policies regarding trade, debt and development aid often contribute to poverty and hunger. *The international economic policies of the United States and those of other industrialized countries should be reshaped to address the needs of developing nations.*

The deficiencies of development assistance are due partly to the complexity and difficulty of Third World problems. The Green Revolution did not fulfill all hopes for it in overcoming hunger. Yet it allowed food production to keep up with population growth in Asia, and poverty in India is now concentrated in the states where Green Revolution technologies could not be applied. Similarly, the World Bank and the International Monetary Fund (IMF) have supported sometimes-harsh adjustment programs in the 1980s, some of which resulted in severe hardship for poor people. Yet hunger has increased both among some of the countries that agreed to adjustment programs and among some of those that did not submit to World Bank/IMF plans.

As the World Bank's *World Development Report 1990* argues, official development assistance in general has not been very effective in helping to reduce poverty—mainly because most of it was never intended primarily for that purpose. The industrial-country governments want their development assistance to help them achieve foreign-policy objectives and promote their exports. Developing-country governments want aid to promote economic growth, not necessarily among the poor, and to achieve various other national objectives. The *World Development Report* urges that more development assistance be allocated to those developing countries which are making serious efforts to reduce poverty.

Industrial-country policies regarding trade and international finance are even more important than aid policies. *Hunger 1990* reports that many developing countries are still struggling to overcome the problems provoked by falling export revenues and the international debt crisis. International economic conditions, often together with past domestic mistakes, have left some countries in almost hopeless predicaments.

Widely fluctuating prices, currently quite low, for primary commodities such as sugar, coffee, cocoa and jute have compounded the difficulties of many developing countries. At the same time, increasing protectionism in the industrial countries during the last decade has discouraged the development of manufacturing in developing countries.

Banks which made unsound loans in developing countries have yet to absorb much of the cost of their mutual mistakes. The international debt crisis is in large measure due to fiscal and monetary decisions by industrial-country governments in the early 1980s. These governments have so far avoided shouldering much of the costs. At the same time, many well-off people within the indebted countries have protected themselves by keeping some of their wealth abroad. Low- and middle-income people in the developing countries have had to bear the brunt of the debt crisis.

Economic problems and political trends in the industrial countries made the 1980s a difficult decade for most developing countries and for poor people almost everywhere. Renewed progress against poverty during the 1990s, especially in Africa and Latin America, will depend in part on the will or effort of industrial countries to move forward more seriously with debt reduction for developing countries; to open their markets to developing-country exports; and to improve the quality of their development assistance.

What We Can Do

What can we do? We can begin with ourselves. We can raise our level of concern and increase our knowledge about hunger, its causes, and efforts to overcome it. We may change our attitudes and our behavior. This may affect our habits as consumers, for example, or the way we listen to the news and how we assess political candidates, or prompt us to reach out to people in need.

When responding to hunger, most of us need the support and stimulation which comes from others. Participation in a group or organization can help anyone explore further the information and conclusions in *Hunger 1990*. If no such group is available, consider starting one.

Shared efforts to overcome hunger fall into two broad categories — service and advocacy. Private voluntary organizations provide channels for direct service. Cutbacks in U.S. public social spending have put a greater burden on private programs. Soup kitchens, food banks, youth recreation and tutoring, emergency facilities for the homeless, and similar programs need financial support and volunteers. Active participation in such efforts not only offers immediate help but nearly always leads to new understanding as well.

We can also give money to private agencies that work in developing countries. When people give money to an agency with a well-established track record, they can feel confident that their money will be used responsibly for relief and development among poor people. Private agencies often channel funds to grassroots groups in developing countries — groups such as Plan Sierra and the Six S, which *Hunger 1990* holds up as beacons of hope.

The best development agencies also help their supporters learn about the causes of hunger from poor people. They listen to their grassroots partners and communicate concerns and insights back to their contributors.

Active involvement in serving, whether at the local level or by proxy through national and international PVOs, often leads to advocacy. Working beside poor people may excite and inform efforts to change local or national policies that contribute to hunger. Grassroots groups in poor nations are urging sympathizers in the United States and other industrial countries to help not only by sending contributions, but also by influencing government policies that affect developing countries.

Our service and advocacy for overcoming hunger must coincide with our role as citizens. Important as private efforts are, for the relief they bring and the ways we are changed through service, they must be accompanied by changes in public policies.

For example, all the U.S. private agencies that channel resources to developing countries together provide almost $2 billion a year. Yet if U.S. economic policies cause world interest rates to go up one percentage point, this adds about $13 billion a year to the debt burden of developing countries. Debt relief and U.S. monetary policy are hunger issues.

Import restrictions by industrial countries on just one export—sugar—cost developing countries $7 billion a year. Exclusion of textiles has a similar impact. But increased imports also affect U.S. workers and farmers. Trade rules are complex, but they affect hungry people.

A reallocation of just 1 percent ($3 billion) from the U.S. defense budget could more than double development assistance. Perhaps more important, a development-oriented foreign policy might do more than military-oriented policies to bring peace to war-torn regions such as the Horn of Africa. Militarization and military spending have an extensive impact on hunger.

Another 1 percent from the U.S. defense budget or an equivalent rise in the tax rate for the wealthiest among us could permit an increase in funding for cost effective domestic hunger programs such as food stamps and WIC, and lift many people out of hunger. So taxes and spending — budget priorities — are hunger issues.

Citizen action on hunger advocacy begins with small steps: a visit with the local council member or a question to a member of Congress at a public forum, a letter to the editor or one's U.S. representative or senator. The impact of such efforts are multiplied when people act in concert, so joining an advocacy group on hunger makes sense.

Hunger on a mass scale is not necessary. For that reason, it is also morally repugnant. But we can each bring our service and our influence as citizens to bear on helping to end hunger. ■

Glossary

anemia A condition in which the hemoglobin concentration (the number of red blood cells) is lower than normal as a result of a deficiency of one or more essential nutrients, such as iron.

apartheid The legally-enforced system of racial segregation and discrimination against Blacks and others of colored descent in South Africa.

child mortality rate The annual number of deaths of children between one and five years of age per 1,000 live births. More specifically, the probability of dying between the one and five years of age.

daily calorie requirement The average number of calories per capita needed to sustain normal levels of activity and health, taking into account age, sex, body weight and climate.

debt service The sum of repayments of principle and payments of interests on debt.

famine A situation of extreme scarcity of food, potentially leading to widespread starvation.

goiter Enlargement of the thyroid gland (causing a swelling in the front of the neck) due to a deficiency of iodine.

Green Revolution A term used to describe the technological changes in agriculture production methods, mostly in the Third World, during the 1960s and 1970s. The technologies relied on the use of improved seeds, known as high-yielding varieties, and chemical fertilizers, pesticides and irrigation. The technologies have significantly increased crop yields, but have also increased socio-economic differences.

hectare Measurement of land, equivalent to just less than 2.5 acres.

hunger A condition in which people lack the basic food intake to provide them with the energy and nutrients for fully productive, active and healthy lives.

hunger season/seasonal malnutrition Fluctuations in food availability or malnutrition due to shortages occurring in the period before new harvests.

infant mortality rate The annual number of deaths of infants under one year of age per 1,000 live births. More specifically, the probability of dying between birth and exactly one year of age.

landlessness The state of not having ownership or control over land, particularly in societies in which a large proportion of the population live in rural areas and are involved in agriculture for a living.

low birthweight infants Babies born weighing 2,500 grams (5 lbs., 8 oz.) or less. They are especially vulnerable to illness and death in the first month of life.

malnutrition A broadly encompassing term indicating an impairment to physical and/or mental health resulting from a failure to achieve nutrient requirements. The insufficiency of nutrients may result from inadequate intake or from interference with the body's ability to process and utilize nutrients. In the Third World a combined protein-energy malnutrition (PEM) among children is the most common form of malnutrition, often observed clinically as stunting and wasting. Malnutrition can refer also to over-consumption of particular nutrients such as refined sugar and fats that lead to obesity, cardiovascular and other health problems.

marginal farmers Farmers who control and work the barest minimum of land and, with other assets, usually manage to subsist with difficulty.

maternal mortality rate The annual number of deaths of women from pregnancy-related causes per 100,000 live births.

pastoralists Persons who herd livestock.

poverty line That income level below which a minimum nutritionally adequate diet plus essential nonfood requirements are generally not affordable.

Recommended Daily Allowance (RDA) The term used by the U.S. Food and Nutrition Board of the National Research

Council of the National Academy of Sciences for recommendations for daily intake of specific nutrients. The intake recommendations, based on healthy individuals according to age and sex, are designed to be adequate for good health, allowing a margin of safety for individual variation.

small-scale farmers The definition varies by country, locale and economic status. In general, farm households with one to five hectares of land under crops.

structural adjustments Economic reforms, often imposed as a condition upon an indebted country by its lenders for future loans, intended to stimulate economic growth, but which often have the effect of reducing social services.

stunting Stunting is a failure to grow to normal height caused by chronic undernutrition during the formative years of childhood. Clinicians describe stunting as height more than two standard deviations below the median for an age group.

tenant farmers Farmers who till land owned by another and pay rent with cash or with a portion of the produce.

Third World A much abused term, used here to describe areas or nations of the world where poverty is deeply imbedded and economic, political and social inequities create high vulnerability to hunger. Such conditions also exist in many industrial countries.

underemployment The situation of not being fully employed year round.

under five mortality rate The annual number of deaths of children under five years of age per 1,000 live births. More specifically, the probability of dying between birth and exactly five years of age.

undernutrition A form of mild, moderate or acute malnutrition which is characterized by inadequate intake of food energy (measured by calories). The layperson's terms are being undernourished or eating too little. Stunting, wasting, and being underweight are terms for common outcomes of undernutrition.

underweight A condition in which a person is seriously below normal weight for his/her age. Clinicians describe underweight as weight more than two standard deviations below the median for an age group. The term can apply to any age group, but is most often used as a measurement of undernutrition in children under five.

unemployment The state of being without work, usually applied to those not working involuntarily.

vitamin A deficiency A nutritional deficiency that can lead to eye disorders and ranks as the leading cause of childhood blindness in many developing countries.

vulnerability A term used in this report to describe individuals, households, communities or nations who have enough to eat most of the time, but whose poverty makes them especially susceptible to changes in the economy, climate or political conditions.

wasting A condition in which a person is seriously below normal weight for their height. Clinicians describe wasting as weight mor than two standard deviations below the median within a height category.

Table 1: Demographic Indicators

	Population in millions mid-1990	Growth rate (%) 1990-95	Infant mortality rate 1990	Under five mortality rate 1990-95	Annual infant deaths in thousands 1990	Maternal mortality rate per 100,000 live births 1980-87	Percent of population urbanized 1990	Percent under 16 years 1988
ASIA AND MIDDLE EAST								
Afghanistan	16.6	6.7	162	298	140		21	44
Bangladesh	115.6	2.7	107	168	495	600	13	47
Bhutan	1.5	2.3	118	178	7	1710	5	40
Cambodia	8.3	2.2	115	169	34	500	11	35
China	1135.5	1.3	26	36	561	44	21	29
Fiji	0.8	1.2	23	27	1	41	44	38
India	853.4	2.1	87	130	2302	340	28	39
Indonesia	180.5	1.5	74	99	334	450	28	39
Iran	56.6	2.6	53	138	117	120	54	46
Iraq	18.9	3.4	56	74	42		74	49
Jordan	4.3	4.0	36	45	7		68	51
Korea, North	39.6	2.2	20	26	21	41	67	40
Korea, South	54.6	0.0	20	26	17	26	72	20
Kuwait	2.1	3.1	16	19	1	6	95	42
Laos	4.1	2.4	97	139	15	2	18	45
Lebanon	3.0	2.1	34	39	3		83	39
Malaysia	17.3	2.0	20	28	9	59	42	39
Mongolia	2.2	3.1	39	49	3	100	51	43
Mynamar	41.7	2.1	59	74	71	135	24	40
Nepal	19.1	2.3	118	178	81	830	9	45
Oman	1.5	3.3	84	129	6		10	50
Pakistan	122.7	2.9	98	147	493	500	31	47
Papau N.G.	4.0	2.5	52	67	7	900	15	45
Philippines	59.5	2.6	40	62	79	93	41	25
Saudi Arabia	14.1	3.8	58	77	34		77	47
Singapore	2.7	0.0	7	10	0	5	99	27
Sri Lanka	17.2	1.3	28	36	11	60	21	35
Syria	12.5	3.5	39	49	20	280	51	51
Thailand	55.7	1.4	32	39	36	81	22	36
Turkey	55.6	1.9	62	75	90	210	48	37
United Arab E.	1.6	2.2	22	32	1		77	33
Vietnam	67.2	2.2	53	77	107	140	21	42
Yemen, North	8.0	3.2	102	171	38		24	51
Yemen, South	2.5	3.2	106	171	12	100	43	48
AFRICA								
Algeria	25.4	2.9	60	84	55	130	44	48
Angola	10.0	2.8	127	214	58		28	47
Benin	4.7	3.2	101	167	23		41	48
Botswana	1.3	3.5	58	78	3	250	23	50
Burkina Faso	9.0	2.8	126	217	52	810	9	46
Burundi	5.5	2.9	102	173	25		7	47
Cameroon	11.3	2.7	86	138	40	303	49	46
Cent. Afr. Rep.	2.9	2.5	122	205	15	600	46	46
Chad	5.7	2.5	122	205	30	700	33	44
Congo	2.0	2.8	65	101	6		42	47
Cote D'Ivoire	12.6	3.9	87	133	50		46	52
Egypt	54.1	2.2	70	100	114	318	48	43
Ethiopia	46.7	2.7	142	233	305	2000	12	48
Gabon	1.2	3.3	94	153	5	124+	45	36
Gambia	0.9	2.7	131	261	6		48	43
Ghana	15.0	3.1	81	129	51	1000	33	48
Guinea	6.9	2.5	136	230	42		25	46
Guinea-Bissau	1.0	2.3	121	205	6	400	47	41

+indicates a subnational sample

	Population in millions mid-1990	Growth rate (%) 1990-95	Infant mortality rate 1990	Under five mortality rate 1990-95	Annual infant deaths in thousands 1990	Maternal mortality rate per 100,000 live births 1980-87	Percent of population urbanized 1990	Percent under 16 years 1988
Kenya	25.1	4.1	64	99	80	510+	23	54
Lesotho	1.8	2.8	89	119	6		20	47
Liberia	2.6	3.3	79	187	9	173	44	46
Libya	4.5	3.6	68	96	13		70	48
Madagascar	12.0	3.2	110	77	58	240	25	47
Malawi	8.4	3.3	138	239	59	250	14	48
Mali	9.4	3.0	159	271	72		19	49
Mauritania	2.0	2.8	116	195	10	119	42	47
Mauritius	1.1	1.2	19	24	0	100	42	27
Morocco	25.1	2.4	120	96	53	330	48	44
Mozambique	15.7	2.7	130	219	88	479+	26	46
Namibia	1.9	3.1	97	159	8		56	44
Niger	7.1	3.1	124	209	44	420	19	49
Nigeria	113.0	3.5	96	157	521	800	35	51
Rwanda	7.2	3.4	111	186	39	210+	7	52
Senegal	7.4	2.7	117	204	38	600	38	46
Sierra Leone	4.2	2.6	142	271	28	450	32	46
Somalia	7.6	2.4	121	233	42	1100	36	49
South Africa	35.3	2.1	62	80	63	83+	58	40
Sudan	25.2	2.9	99	153	107	660	22	48
Swaziland	0.8	3.4	107	155	4		37	46
Tanzania	27.3	3.7	96	158	128	340	32	49
Togo	3.5	3.1	85	136	13		25	47
Tunisia	8.2	1.0	47	79	10		54	41
Uganda	18.4	3.5	93	153	84	300	10	51
Zaire	36.0	3.2	90	145	143	800+	39	48
Zambia	8.5	3.7	71	113	30	151	55	51
Zimbabwe	9.7	3.1	64	99	24	150+	27	48
LATIN AMERICA								
Argentina	32.3	1.2	29	34	19	69	86	32
Bolivia	7.3	2.8	93	143	28	480	51	46
Brazil	150.4	1.9	57	77	223	120	76	38
Chile	13.2	1.6	19	23	6	47	85	33
Colombia	31.8	1.9	42	61	35	110	70	39
Costa Rica	3.0	2.3	17	21	1	36	53	38
Cuba	10.3	0.9	13	15	2	31	74	25
Dominican Rep.	7.2	1.0	57	72	11	74	60	41
Ecuador	10.8	2.7	57	79	20	190	56	43
El Salvador	5.3	2.5	48	69	9	70	44	48
Guatemala	9.2	2.9	48	82	17	110	41	48
Guyana	1.0	1.5	25	31	1		34	40
Haiti	6.5	1.9	106	153	23	230	30	41
Honduras	5.1	2.0	57	89	11	50	43	48
Jamaica	2.5	1.4	16	20	1	110	52	38
Mexico	88.6	2.0	41	60	94	82	72	41
Nicaragua	3.9	3.2	50	76	7	47	59	50
Panama	2.4	1.9	21	30	1	57	54	39
Paraguay	4.3	2.7	39	55	6	380	47	43
Peru	22.3	2.4	76	100	53	88	70	42
Trinidad/Tobago	1.3	1.5	18	20	0	54	69	33
Uruguay	3.1	0.7	25	27	1	38	85	29
Venezuela	19.7	2.4	33	40	18	59	90	29

Table 2: Health and Nutrition

	Percent of children					Percent infants fully immunized 1987-88	Percent infants with low birthweight 1982-88
	Underweight	Stunted	Wasted	Age (months)	Survey year		
ASIA AND MIDDLE EAST							
Afghanistan	80+			0-59	1989	25	20
Bangladesh	61	60	16	6-71	1983	13	28
Bhutan	33			0-59	1986	36	
Cambodia	27	22	37	0-35	1986	38	15
China		25		0-84	1987	75	5+
Fiji						25	14
India	41			0-59	1982	44	30
		51+	21+	0-59	1983		
Indonesia	51		4	0-59	1987	61	14
Iran	43	50	13	0-59	1980	73	5
Iraq						78	9
Jordan						87	5
Korea, North						35	0
Korea, South	8+	18+	2+	0-59	1984	86	9
Kuwait	6	11	3	0-59	1984	63	7
Laos	49	40	11	0-59	1984	17	39
Lebanon	3+	4+	6+	0-12	1986	81	10
Malaysia	23+	30+	5+	0-59	1982	54	10
Mongolia						53	10
Mynamar	38	50	11	0-36	1985	13	16
Nepal	42	63	29	0-59	1984	52	
Oman						86	6
Pakistan	52	46	15	0-59	1987	55	25
Papau N.G.	35			0-59	1984	46	25
Philippines	18			0-59	1987	77	18
		42	5	0-59	1982		
Saudi Arabia						80	7+
Singapore						92	6
Sri Lanka	38	28	13	3-36	1987	68	28
Syria	75			0-59	1984	51	9
Thailand	26	22	6	3-36	1987	60	12
Turkey	12			0-59	1987	64	7
United Arab E.	23			0-59	1980	58	7
Vietnam	52+	60+	7+	0-59	1986	54	18
Yemen, North	58			0-59	1985	28	9
Yemen, South	26	34	8	0-65	1983	28	13+
AFRICA							
Algeria						58	9
Angola						12	20+
Benin	35+			0-59	1987	30	8
Botswana	15			0-59	1987	83	8
		44		0-59	1981		
Burkina Faso	46+			0-59	1987	30	18
Burundi	38	48	6	3-36	1987	41	14
Cameroon						43	13
Cent. Afr. Rep.						24	5
Chad	12+				1985	14	11
Congo	24	27	5	0-59	1987	71	12
Cote D'Ivoire	12	17	9	0-59	1986	30	14
Egypt	13	31	1	3-36	1988	84	5+
Ethiopia	38	42	12	0-59	1982	13	8+
Gabon	13+	18		0-59	1984	68	16
Gambia	18+	24+	7+	6-36	1982	70	35
Ghana	42	31	7	0-59	1988	33	17
Guinea						16	18
Guinea-Bissau	18+	22+	5+	0-36	1988	47	13
Kenya	21	38	5	3-59	1982	60	15
Lesotho	16	26	5	0-59	1981	77	11

+indicates a subnational sample

	Percent of children					Percent infants fully immunized 1987-88	Percent infants with low birthweight 1982-88
	Underweight	Stunted	Wasted	Age (months)	Survey year		
Liberia						28	
Libya						52	5
Madagascar	53			0-59	1987	35	10
		28	33	0-23	1984		
Malawi	30	56	2	6-59	1981	78	20
Mali	31	24	11	3-36	1987	18	20
Mauritania	36	25	8	0-59	1987	28	11
Mauritius	24	22	16	0-59	1985	73	9
Morocco	16	26	4	0-36	1987	58	
Mozambique						38	20
Namibia						30	
Niger	49	38	23	0-59	1985	16	15
Nigeria	28			6-36	1986	57	20+
			21	0-59	1983		
Rwanda						78	
Senegal	22	23	6	6-36	1986	47	11
Sierra Leone						25	17
Somalia	65+			0-59	1986	25	
			30+	0-59	1989		
South Africa	43+	53+	10+	12-72	1984		12+
Sudan	55+	68+	13+	0-59	1983	53+	15
			13+	0-59	1987		
Swaziland	10	30	1	3-59	1984		7
Tanzania	48	46+		0-59	1988	81	14
			17	12-2			
Togo	24	30	5	0-36	1988	60	20
Tunisia	10	18	3	3-36	1988	83	
Uganda	13	45	2	0-59	1989	40	10
Zaire	28+	43+	5+	0-59	1979	41	23+
Zambia						80	
Zimbabwe	12	29	1	3-59	1988	75	6
LATIN AMERICA							
Argentina						61	
Bolivia	13			3-36	1989	27	12
		43	1	0-59	1981		
Brazil	13+	28+	1+	0-59	1986	54	8
Chile	3	10	1	0-71	1986	95	7
Colombia	12	23	1	3-36	1986	74	15
Costa Rica	6	8	2	0-59	1982	86	10
Cuba			1	12-59	1987	85	8
Dominican Rep.	13	21	2	6-36	1986	51	16
Ecuador	55	33	2	0-59	1987	52	10
El Salvador	16			0-71	1988	61	15
Guatemala	60	58	1	3-36	1987	38	10
Guyana	22	21	9	0-59	1981	55	11
Haiti	46	27	16	3-59	1988	45	18
Honduras	21	34	2	0-59	1987	70	20
Jamaica	9			0-59	1989	68	12
		7		0-59	1987		
Mexico	38+	45+	4+	0-59	1984	60	7+
Nicaragua	11	22	1	0-59	1982	51	15
Panama	16	22	6	0-59	1980	73	8
Paraguay	1			0-59	1982	56	7
Peru	13	38	1	0-71	1984	57	9
Trinidad/Tobago	7	5	4	3-36	1987	72	
Uruguay	7	16		0-59	1987	72	8
Venezuela	6	6	2	0-59	1987	49	9

Table 3: Human Welfare Indicators

	Percent without access to health facilities 1985-87	Percent without access to safe water 1985-87	Percent below absolute poverty level 1977-87	Adult literacy 1985	Percent households headed by women
ASIA AND MIDDLE EAST					
Afghanistan	20/83	62/83	18/36	39/8	
Bangladesh	55˙	76/51	86/86	43/22	17
Bhutan	35	60/86		37/10	
Cambodia	20/50	90/98		85/65	
China		19/60	.../10	82/56	
Fiji	0	6/34	.../30	90/80	
India		24/50	40/51	57/29	
Indonesia	20	57/64	26/44	83/65	16
Iran	5/40	5/45		62/39	7
Iraq	3/30	0/46	.../40	90/87	6
Jordan	2/5	0/12	14/17	87/63	
Korea, North	0	0/0		100/100	
Korea, South	3/14	10/52	18/11	96/88	15
Kuwait	0/0	0/0		76/63	
Laos	33	72/80		92/76	
Lebanon	5	5/15		86/69	
Malaysia	.../7	4/24	13/38	81/66	20
Mongolia	0	0/0		95/90	
Mynamar	0/89	64/76	40/40	86/76	
Nepal		30/75	55/61	39/12	
Oman	0/10	10/51		47/12	
Pakistan	1/65	17/73	32/29	40/19	4
Papau N.G.	7	5/85	10/75	55/35	
Philippines		51/46	50/64	86/85	11
Saudi Arabia	0/12	0/12		71/31	
Singapore	0	0		93/79	18
Sri Lanka	7	18/71	25	91/83	17
Syria	8/40	2/46		76/43	13
Thailand	30	44/34	15/34	94/88	17
Turkey		5/37		86/62	10
United Arab E.	10	0		61/36	
Vietnam	0/25	30/41	6/...	88/89	
Yemen, North	25/76	0/75		42/7	5
Yemen, South	70	15/68	.../20	59/25	
AFRICA					
Algeria	0/20	15/45	20/...	63/37	
Angola	70	13/85		49/33	
Benin	82	20/66	.../65	37/16	
Botswana	0/15	16/54	40/55	73/69	
Burkina Faso	49/52	57/31		21/6	5
Burundi	39	2/79	55/85	43/26	
Cameroon	56/61	57/76	15/40	68/45	
Cent. Afr. Rep.	45	16	.../91	53/29	
Chad	70	69	30/56	40/11	
Congo	3/30	58/93		71/55	
Cote D'Ivoire	39/89	70/90	30/26	53/31	
Egypt	0/1	8/44	51/47	59/30	
Ethiopia	54	3/91	60/65	60	
Gabon	10	8		70/53	
Gambia	10	0/67	.../40	36/15	
Ghana	8/55	7/61	59/66	64/43	27
Guinea	68	59/88		40/17	
Guinea-Bissau	36	79/63		46/17	

+ indicates a subnational sample; ... indicates either urban or rural data not available:
˙ single number indicates data were only available on national level.

	Percent without access to health facilities 1985-87	Percent without access to safe water 1985-87	Percent below absolute poverty level 1977-87	Adult literacy 1985	Percent households headed by women
Kenya		39/79	10/55	70/49	30
Lesotho	20	35/70	50/55	62/84	
Liberia	50/70	0/77	.../23	47/23	15
Libya	0/0	0/10		81/50	
Madagascar	44	19/83	50/50	74/62	
Malawi	20	3/50	25/85	52/31	29
Mali	15	54/90		23/11	15
Mauritania	70	20/84		20	
Mauritius	0/0	0/0	12/12	89/77	19
Morocco	0/50	0/75	28/45	45/22	17
Mozambique	0/70	62/91		55/22	
Namibia	40	67			
Niger	1/70	65/51	.../35	19/9	
Nigeria	25/70	0/80		54/31	
Rwanda	40/75	21/52	30/90	61/63	25
Senegal	60	21/62		37/19	
Sierra Leone	64	32/93	.../65	38/21	
Somalia	50/85	42/78	40/70	18/6	
South Africa					
Sudan	10/60	40/90	.../80	33/14	22
Swaziland		62	45/50	70/66	
Tanzania	1/28	10/58		93/88	
Togo	39	1/59	42/...	53/28	
Tunisia	0/20	0/69	20/15	68/41	10
Uganda	10/43	63/82		70/45	
Zaire	60/83	48/79		79/45	
Zambia	25	24/59	25/...	84/67	
Zimbabwe	0/38	0/90		81/67	40+
LATIN AMERICA					
Argentina	20/19	37/83		96/95	17
Bolivia	10/64	25/87		84/65	
Brazil		15/44		79/76	13
Chile	3	2/29	.../56	97/96	
Colombia	40	0/24	32/70	82/82	
Costa Rica	0/37	0/17		94/93	16
Cuba		39		96/96	18
Dominican Rep.	20	15/67	45/43	78/77	
Ecuador	10/70	16/69	40/65	85/80	
El Salvador	20/60	32/60	20/32	75/69	22
Guatemala	53/75	18/86	66/74	63/47	15
Guyana	11	0/35		86	22
Haiti	20/30	41/70		40/35	
Honduras	15/35	44/55	14/55	61/58	22
Jamaica	10	1/7	.../80	76	34
Mexico	55	11/53		92/88	
Nicaragua	0/40	24/89	21/19		
Panama	5/36	0/36	21/30	89/88	21
Paraguay	10/62	47/92	19/50	91/85	
Peru	25	27/83	49/...	91/87	23
Trinidad/Tobago	1	0/5	.../39	97/95	25
Uruguay	18	5/73	22/...	93/94	
Venezuela		7/35		88/85	22

Table 4: Economic Indicators

	Percent of central government expenditures on: Health	Education	Defense	Total debt in billions of US$ 1987	Debt servicing as percent of export earnings 1987	Food as percent of exports 1980-89	Food as percent of imports 1980-89
ASIA AND MIDDLE EAST							
Afghanistan				1.4	7	33	20
Bangladesh	10	11	10	8.9	24	18	19
Bhutan	42	17		0.0	24		
Cambodia			40	0.5	46		
China				23.7	7	15	9
Fiji				0.3	10	91	18
India	2	3	22	40.8	24	27	9
Indonesia	2	9	9	45.4	33	7	7
Iran	6	20	14	2.5	6		
Iraq	5			7.1	13		
Jordan	4	14	30	3.5	22	20	22
Korea, North				0.0			
Korea, South	2	18	27	30.6	28	5	6
Kuwait	8	14	14	0.7	6	1	17
Laos				0.5	29		
Lebanon				0.5	9		
Malaysia				21.7	20	19	11
Mongolia				0.0			
Mynamar	8	12	19	4.3	59		
Nepal	5	12	6	0.9	10	35	14
Oman	5	11	44	2.0	5	1	16
Pakistan	1	3	30	13.2	26	16	18
Papau N.G.	10[b]	16[b]	5[b]	2.6	37	30	20
Philippines	6[b]	18[b]	9[b]	23.8	26	27	10
Saudi Arabia				3.9	4	1	13
Singapore	4	18	19	4.2	2	8	9
Sri Lanka	5	8	10	4.2	20	53	15
Syria	1	9	39	3.6	17	6	19
Thailand	6	19	19	17.1	21	44	7
Turkey	2	13	11	31.4	34	25	5
United Arab E.	6	10	45	1.3	5	1	10
Vietnam				0.0		15	22
Yemen, North	4	17	22	2.2	25	21	32
Yemen, South	6			1.7	38		
AFRICA							
Algeria	6	25	9	19.2	49	1	25
Angola				1.1	13		
Benin	6	18	9	0.9	16	36	25
Botswana	6[b]	18[b]	8[b]	0.5	4	17	9
Burkina Faso	6	19	17	0.5	19	34	26
Burundi	6	16	18	0.7	39	90	16
Cameroon	4	13	8	3.3	28	36	10
Cent. Afr. Rep.				0.5	12	31	21
Chad				0.3	4		
Congo				3.7	19	1	19
Cote D Ivoire	4	21	4	11.7	41	68	17
Egypt	3	12	20	35.6	22	7	30
Ethiopia	3	9	50	2.4	28	71	30
Gabon				1.6	5	1	18
Gambia	7	12	0	0.2	14		
Ghana	8[b]	24[b]	7[b]	2.2	20	51	11
Guinea				1.3	14		
Guinea-Bissau	5[b]	5[b]	4[b]	0.2	130	85	20

[b] indicates budgetary data.

	Percent of central government expenditures on:			Total debt in billions of US$ 1987	Debt servicing as percent of export earnings 1987	Food as percent of exports 1980-89	Food as percent of imports 1980-89
	Health	Education	Defense				
Kenya	7[b]	23[b]	9[b]	5.0	34	59	9
Lesotho	7	16	10	0.2	4	3	21
Liberia	7	16	9	1.2	3	9	25
Libya				1.2	6	1	16
Madagascar				3.1	35	79	13
Malawi	7[b]	11[b]	7[b]	1.2	23	96	8
Mali	2	9	8	1.8	10	25	21
Mauritania	3	10	29	1.9	18	50	30
Mauritius	8	12	1	0.6	7	69	25
Morocco	3	17	15	18.8	31	30	16
Mozambique				1.2	81		
Namibia				0.0			
Niger	4	18	3.8	1.5	47	16	24
Nigeria	1[b]	3[b]	3[b]	26.1	12	2	16
Rwanda	5	19	13	0.5	11	80	12
Senegal	5	23	17	3.1	22	27	27
Sierra Leone	6	13	3	0.4	15	33	28
Somalia	3	8	25	2.3	8	98	20
South Africa				0.0		9	3
Sudan	1[b]	10[b]	13[b]	5.0	16	59	19
Swaziland	9[b]	25[b]	5[b]	0.3	11		
Tanzania	6	18	16	4.1	19	63	7
Togo	4	13	8	1.0	14	26	26
Tunisia	7	14	8	6.4	29	12	14
Uganda	2	15	26	1.1	20		
Zaire	3	19	9	7.3	13		
Zambia	5[b]	8[b]	0[b]	3.2	14	1	7
Zimbabwe	6	20	14	1.6	22	36	8
LATIN AMERICA							
Argentina	2	6	6	50.3	52	67	7
Bolivia	1	12	6	4.8	22	4	17
Brazil	6	3	3	106.1	33	37	9
Chile	6	13	11	18.0	26	28	5
Colombia				15.4	36	59	9
Costa Rica	19	16	2	3.9	14	72	10
Cuba				5.9	6	82	12
Dominican Rep.	9	13	8	3.5	22	75	12
Ecuador	7[b]	25[b]	12[b]	9.1	22	29	11
El Salvador	7	17	27	1.7	21	68	13
Guatemala				2.5	26	58	7
Guyana	2	3		0.7	12	47	18
Haiti				0.7	7	36	24
Honduras	2	5	30	2.8	26	81	11
Jamaica	7			3.6	28	18	19
Mexico	1	9	1	96.9	38	8	12
Nicaragua				4.9	47	56	14
Panama	16	16	0	3.7	7	78	12
Paraguay	3	12	12	2.2	22	49	7
Peru	4			13.9	13	18	24
Trin/Tobago				1.6	11	4	18
Uruguay	5	7	10	3.2	26	42	7
Venezuela	10	20	6	32.7	32	1	13

Table 5: Demographic Indicators — Small Countries

	Population in thousands mid-1980s	Growth rate (%) 1980-87	Infant mortality rate 1988	Under five mortality rate mid-1980s	Annual infant deaths in thousands mid-1980s	Maternal mortality rate per 100,000 live births mid-1980s	Percent of population urbanized mid-1980s	Percent of population under 16 years mid-1980s
Antigua	84	1.4	22	26	28		31	32
Bahamas	247	2.1	26	32	166	19	58	38
Bahrain	515	3.1	22	27	34	19	27	32
Barbados	261	0.8	10	12	60	143	80	28
Belize	182	3.0	50	32	975		51	46
Brunei	243	3.3	12	13	70	46	59	38
Cape Verde	379	3.1	56	70	874	107	63	31
Comoros	518	3.1	71	113	1775		64	46
Cook Islands	19	-0.7	16	7	100	30	50	
Djibouti	406	3.0	111	169	2087	61		
Dominica	81	1.2	18	21	94	47		
Eq. Guinea	440	2.4	117	195	1966	30	41	
Grenada	102	1.8	14	34	36	47		
Kiribati	70	1.8	62	84	250	38	41	
Maldives	200	3.5	68	91	585	22	45	
New Caledonia	155	1.3	36	44	90	160	58	36
Niue	4	-1.5	21					
Qatar	367	3.4	25	32	335	84	34	
Samoa	163	33.0	205	40	29	48		
Sao Tome/Principe	120	2.9	66	91	244	40	38	
Seychelles	68	0.9	17	21	46	56	38	
Solomon Island	300	3.7	44	55	589	10	10	48
St. Kitts/Nevis	43	-0.5	40	46	84	45		
St. Lucia	145	1.9	21	25	60	40	50	
St. Vincent	122	1.6	25	30	106	26	44	
Suriname	403	1.5	25	31	260	50	43	
Tonga	100	1.0	26	31	32	20	40	
Tuvalu	8	1.7	46	10	33			
Vanuatu	150	3.2	56	75	9	107	18	45

Table 6: Health and Nutrition — Small Countries

	Percent of children					Percent infants fully immunized mid-1980s	Percent infants with low birthweight mid-1980s
	Underweight	Stunted	Wasted	Age (months)	Survey year		
Antigua	10	7	10	0-59	1981	73*	8
Bahamas						62*	5
Bahrain	68*			0-59	1980	63*	7
Barbados	5	7	4	0-59	1981	77*	
Belize	18*	29*	3*	0-59	1979	44	
Brunei	15			0-59	1984		10
Cape Verde	19	26	3	12-72	1985	90*	
Comoros	16			0-59	1982	31	
Cook Islands						75*	2
Djibouti							
Dominica	5	6	2	0-23	1985	82	11
Eq. Guinea							
Grenada						31*	
Kiribati	13*			0-59	1979		18
Maldives	56	48	29	0-59	1981	9*	26
New Caledonia						98	7
Niue						8*	4
Qatar						22	
Samoa	1*	5*	1*	0-59	1977	78	2
Sao Tome/Principe	17	26	5	0-59	1986	22	8
Seychelles	6	5	2	0-59	1988	99	14
Solomon Island	17*	34*	2*	0-59	1980	87	9*
St. Kitts/Nevis						85*	9
St. Lucia	14	11	6	0-59	1976	60	10
St. Vincent						32	10
Suriname							13
Tonga	20			0-59	1984	90	2
Tuvalu						65	3
Vanuatu	20	19		0-59	1983	18*	5

* *TB, DPT or measles information not available*

Table 7: Economic Indicators — Small Countries

	Adult literacy mid-1980s Male/Female	Percent without access to health facilities mid-1980s Urban/Rural	Percent without access to safe water mid-1980s Urban/Rural	Total debt in millions of US$ 1985	Debt servicing as a percent of export earnings 1985	Food as percent of exports 1980-89	Food as percent of imports 1980-89
Antigua	90	0/0	5	76	5	0.1	5
Bahamas	93	0/0	41	417	7	1	4
Bahrain	79/64	0/0	0/0	846	4	1	6
Barbados	96	0/0	0/80	363	6	16	15
Belize	93	25	0/62	100	9	74	27
Brunei	85/69	4	10	1	1	1	21
Cape Verde	61/39		1/79	101	14	84	43
Comoros	56/40	18	1/48	188	5	85	
Cook Islands	100/100	0/0	20	2		73	28
Djibouti	15/9	63	47/80	217	22		
Dominica	60	0	23	48	4	57	31
Eq. Guinea	72		53	129	17		
Grenada	85	20	15	49	19	92	33
Kiribati	95	5	7/75	10	3	15	40
Maldives	95/90	0/3	83	68	12	0.3	23
New Caledonia	93/91	0/0	0/0	125	4	1	23
Niue							
Qatar	51/51	5	2/50	210	3	1	11
Samoa	95	0/0	20	65	18	95	24
Sao Tome/Principe	73/42		2/21	29	33		
Seychelles	85	1	5	85	8	11	18
Solomon Island	25	42	.../9	61	2	56	19
St. Kitts/Nevis	87	1	25	12	1	71	23
St. Lucia	85	0/0	30	34	1	66	24
St. Vincent	76	20	25	23	4	84	35
Suriname	90/84	0/0	7/13	43	1	20	12
Tonga	79/78	20	5	24	7	86	29
Tuvalu	9 5	0/0	0/0				27
Vanuatu	57/48	20	55	106	10	96	26

... indicates either urban or rural data not available

Table 8: Income Distribution (by quintiles in percentages)

	Lowest 20 percent	Second quintile	Third quintile	Fourth quintile	Highest 20 percent	Year
Bangladesh	7	11	15	22	45	1982
India	7	9	14	21	49	1976
Indonesia	7	8	13	24	49	1976
Korea, South	6	11	15	22	45	1976
Philippines	5	9	13	20	53	1985
Sri Lanka	6	10	14	20	50	1981
Thailand	6	10	14	21	50	1976
Cote d'Ivoire	2	6	11	19	61	1986
Egypt	6	11	15	21	48	1974
Kenya	3	6	12	19	60	1976
Mauritius	4	8	11	17	61	1981
Zambia	3	7	11	17	61	1976
El Salvador	6	10	15	22	47	1977
Mexico	3	7	12	20	58	1977
Trinidad/Tobago	4	9	14	23	50	1976
Uruguay	6	10			46	1983
Venezuela	4	6	11	20	60	1976

Table 9: Change in Real Minimum Wages

	Base Year 1980	End	Year
Argentina	100	121	(1987)
Bolivia	100[a]	37	(1985)
Botswana	100[b]	119	(1980)
Brazil	100	58	(1987)
Burkina Faso	100	89	(1986)
Chile	100	58	(1987)
Colombia	100	113	(1987)
Congo	100	62	(1986)
Costa Rica	100	120	(1987)
Cote d'Ivoire	100	79	(1986)
Dominican Rep	100	80	(1985)
Ecuador	100	69	(1987)
El Salvador	100	64	(1985)
Ghana	100	155	(1986)
Guatemala	100	69	(1986)
Guinea	100	64	(1985)
Haiti	100	96	(1987)
Honduras	100	84	(1987)
Kenya	100	62	(1986)
Mexico	100	58	(1987)
Nicaragua	100	44	(1985)
Nigeria	100	54	(1985)
Panama	100	101	(1985)
Paraguay	100	111	(1987)
Peru	100	61	(1987)
Senegal	100	74	(1986)
Tanzania	100	38	(1986)
Togo	100	77	(1986)
Uganda	100	26	(1985)
Uruguay	100	91	(1987)
Venezuela	100	95	(1987)
Zambia	100	94	(1985)

[a] *base year 1983;* [b] *base year 1975*

Table 10: United States — Trends in Poverty

	1970	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988
Population in millions	205.1	216.0	227.8	230.1	232.5	234.8	237.0	239.3	241.6	243.9	246.3
Total poverty rate (%)	12.6	12.3	13.0	14.0	15.0	15.2	14.4	14.0	13.6	13.4	13.1
White poverty rate (%)	9.9	9.7	10.2	11.1	12.0	12.1	11.5	11.4	11.0	10.4	10.1
Black poverty rate (%)	33.5	31.3	32.5	34.2	35.6	35.7	33.8	31.3	31.1	32.6	31.6
Hispanic poverty rate (%)		26.9	25.7	26.5	29.9	28.0	28.4	29.0	27.3	28.1	26.8
Elderly poverty rate (%)	24.6	15.3	15.7	15.3	14.6	13.8	12.4	12.6	12.4	12.5	12.0
Total child poverty rate (%)	15.1	17.1	18.3	20.0	21.9	22.3	21.5	20.7	20.5	20.5	19.7
White child poverty rate (%)	...	12.7	13.9	15.2	17.0	17.5	16.7	16.2	16.1	15.4	14.6
Black child poverty rate (%)	...	41.7	42.3	45.2	47.6	46.7	46.6	43.6	43.1	45.6	44.2
Hispanic child poverty rate (%)	...	...	33.2	35.9	39.5	38.1	39.2	40.3	37.7	39.6	37.9
Poverty rate of people in female-headed households (%)	38.1	37.5	36.7	38.7	40.6	40.2	38.4	37.6	38.3	38.3	37.4
Percent of Federal budget spent on food assistance	0.5	2.0	2.4	2.4	2.1	2.2	2.1	2.0	1.9	1.9	1.9
Total infant mortality rate †	20.0	16.1	12.6	11.9	11.5	11.2	10.8	10.6	10.4	10.1	...
White infant mortality rate †	17.8	14.2	11.0	10.5	10.1	9.7	9.4	9.3	8.9	8.6	...
Black infant mortality rate †	32.6	26.2	21.4	20.0	19.6	19.2	18.4	18.2	18.0	17.9	...
Unemployment rate (%)	4.9	8.5	7.1	7.6	9.7	9.6	7.5	7.2	7.0	6.2	5.5
Income distribution (per quintile in percentages)*											
Lowest	...	5.4	5.0	4.8	4.5	4.4	4.4	4.4	4.3	4.3[r]	4.4[r]
Second	...	11.8	11.6	11.2	11.0	10.8	10.7	10.8	10.8	10.6[r]	10.7[r]
Middle	...	17.3	17.3	17.0	16.9	16.8	16.7	16.7	16.7	16.6[r]	16.7[r]
Fourth	...	24.0	24.5	24.2	24.2	24.4	24.1	24.1	24.2	24.1[r]	24.2[r]
Highest	...	41.7	41.5	42.7	43.5	43.6	44.2	44.1	44.2	44.4[r]	44.1[r]

* *might not add up to 100.0 due to rounding error*

[r] *indicates a revised methodology*

† *per 1,000 live births*

Table 11: United States — Conditions of Poverty

	Population in millions July 1988	Percent of population living below the poverty level mid-1980s	AFDC benefits as percent of poverty level 1989	Percent of poverty population receiving AFDC 1987	Estimated number of hungry or vulnerable to hunger circa 1988
Alabama	4.1	21.5	15	18	553.802
Alaska	0.5	10.4	82	35	37,155
Arizona	3.5	13.4	37	21	254.959
Arkansas	2.4	22.2	26	12	364.813
California	28.3	13.4	88	45	2.449.326
Colorado	3.3	10.8	45	24	200.699
Connecticut	3.2	7.2	83	51	144.576
Delaware	0.7	11.3	42	34	51.884
District of Columbia	0.6	19.2	52	46	73.903
Florida	12.3	13.3	37	18	1.118.913
Georgia	6.3	15.6	35	23	619.463
Hawaii	1.1	9.9	62	45	50.999
Idaho	1.0	16.4	40	11	122,105
Illinois	11.6	15.0	44	41	1,017.480
Indiana	5.6	12.2	37	25	464.933
Iowa	2.8	16.5	52	24	345,037
Kansas	2.5	11.2	56	20	179,122
Kentucky	3.7	18.5	29	22	355,717
Louisiana	4.4	20.8	24	28	376,875
Maine	1.2	11.1	56	41	71,988
Maryland	4.6	8.5	50	52	206,663
Massachusetts	5.9	8.8	69	44	276,473
Michigan	9.2	14.4	59	52	674,270
Minnesota	4.3	11.5	68	29	309,130
Mississippi	2.6	25.6	15	24	301,530
Missouri	5.1	14.3	36	29	431,334
Montana	0.8	16.3	46	17	91,813
Nebraska	1.6	14.6	46	19	166,210
Nevada	1.1	12.4	42	10	96,589
New Hampshire	1.1	5.6	64	24	43,384
New Jersey	7.7	9.5	54	59	462,726
New Mexico	1.5	20.7	34	19	201,804
New York	17.9	15.2	69	40	1,637,125
North Carolina	6.5	14.0	34	19	617,704
North Dakota	0.7	14.9	49	11	71,886
Ohio	10.9	12.4	41	49	551,094
Oklahoma	3.2	15.5	41	15	314,277
Oregon	2.8	12.6	55	23	195,455
Pennsylvania	12.0	12.4	51	45	807,037
Rhode Island	1.0	11.2	69	50	67,748
South Carolina	3.5	17.6	26	24	269,106
South Dakota	0.7	16.2	48	13	78,831
Tennessee	4.9	17.8	23	18	499,342
Texas	16.8	16.2	23	14	1,451,801
Utah	1.7	11.9	49	21	130,931
Vermont	0.6	10.2	83	46	31,584
Virginia	6.0	10.6	45	27	392,252
Washington	4.6	11.7	63	34	352,875
West Virginia	1.9	22.8	32	25	236,435
Wisconsin	4.9	11.8	66	53	360,690
Wyoming	0.5	12.3	46	16	39.547
Total	**245.8**	**14.0**			**20,221,385**

	Infant mortality rate per 1,000 live births 1985-87 all races	Infant mortality rate per 1,000 live births 1985-87 Whites	Infant mortality rate per 1,000 live births 1985-87 Blacks	Percent of infants with low birth-weight 1987 Whites	Percent of infants with low birth-weight 1987 Blacks	Percent of eligible people receiving WIC in 1989
Alabama	13	10	19	6	12	55
Alaska	11	9	13	5	9	69
Arizona	10	9	14	6	12	54
Arkansas	11	9	15	6	12	50
California	9	9	16	5	12	63
Colorado	9	9	17	8	14	56
Connecticut	9	8	20	6	13	78
Delaware	13	10	21	5	12	64
District of Columbia	20	12	24	5	16	70
Florida	11	9	18	6	13	62
Georgia	13	10	18	6	12	74
Hawaii	9	8	16	5	8	37
Idaho	11	11		6	8	39
Illinois	12	9	21	6	14	60
Indiana	11	10	20	6	12	59
Iowa	9	9	15	5	11	54
Kansas	9	9	16	6	13	56
Kentucky	10	10	15	6	11	58
Louisiana	12	8	17	6	13	59
Maine	9	9		5	7	43
Maryland	12	9	18	6	13	54
Massachusetts	8	8	18	5	11	55
Michigan	11	9	22	6	14	56
Minnesota	9	9	17	5	13	68
Mississippi	13	9	18	6	12	69
Missouri	10	9	18	6	13	54
Montana	10	9		5	14	45
Nebraska	9	9	18	5	12	37
Nevada	9	9	15	6	13	78
New Hampshire	9	9		5	5	58
New Jersey	10	8	18	5	13	53
New Mexico	9	9	17	7	12	43
New York	11	9	17	6	13	62
North Carolina	12	9	18	6	12	63
North Dakota	9	8		5	2	66
Ohio	10	9	17	6	12	60
Oklahoma	10	10	17	6	11	54
Oregon	10	10	18	5	13	60
Pennsylvania	11	9	21	6	14	55
Rhode Island	9	8	13	5	12	63
South Carolina	13	10	19	6	13	60
South Dakota	11	9		5	6	52
Tennessee	11	9	20	7	13	57
Texas	10	9	16	6	12	59
Utah	9	9		6	11	50
Vermont	9	9		5	3	80
Virginia	11	9	18	6	12	53
Washington	10	10	14	5	10	46
West Virginia	10	10	21	7	11	45
Wisconsin	9	8	17	5	13	57
Wyoming	11	11		8	12	78

Sources for Tables

Sources for International Data

The data cited in the tables are indicative, rather than absolute; they are largely derived from government and United Nations sources whose methods may disguise and underestimate conditions of hungry people.

The sources listed below are largely from United Nations agencies. For other sources used in these tables, refer to the Resources section for the text.

For many indicators, data were available for different years across countries. Rather than clutter the tables with footnotes indicating the precise year, a range is specified where appropriate. For some countries, data from two different years were placed on separate lines. Much of the nutritional and health information is obtained through sampling methods which vary over time and space. Where the sample population is clearly subnational, the figure is flagged with a "+".

Population and Population Growth Rate:

Population refers to estimated population in millions in mid-1990, and growth rates are estimates for the period 1990-1995. Source: *State of the World Population 1990*, United Nations Population Fund, 1990.

For most countries with fewer than one million, entries for population refer to 1988 and population growth rates refer to the period 1980-1987. Source: *State of the World's Children 1990*, UNICEF, 1990, and *Social Indicators of Development, 1989*, World Bank, 1989.

Infant Mortality Rate:

For most countries the latest infant mortality rate estimates refer to 1990. Source: *State of the World Population 1990*, United Nations Population Fund, 1990.

For countries at war, the infant mortality rate is likely to be appreciably higher than the U.N. estimates.

Where the 1990 estimates were not available, particularly for countries with populations under one million, 1988 or circa 1988 data are given. Sources: *State of the World's Children 1990*, UNICEF, 1990, and *Evaluation of the Strategy for Health for All by the Year 2000*, World Health Organization (WHO), 1987.

Under Five Mortality Rate:

Most entries are estimates for the period 1990-1995. Source: *Mortality of Children Under Age 5: World Estimates and Projections 1950-2025*, United Nations Department of International Economic and Social Affairs. Population Studies 105, 1988.

For those countries for which the latest estimates were not available, 1988 or circa 1988 figures were collected from *State of the World's Children*, UNICEF, 1990, and *Evaluation of the Strategy for Health for All by the Year 2000*, WHO, 1987.

Total Infant Deaths:

The number of infant deaths in thousands was calculated by multiplying the total population by the birth rate per thousand and by the infant mortality rate. Insofar as population, infant mortality and birth rate figures are available for 1990, total number of infant deaths refers to the year 1990. For those countries for which 1990 data are not available, figures give an indication of the number of infant deaths in the 1980s.

Maternal Mortality Rate:

The entries refer to the period 1980-87. Sources: *State of the World's Children 1990*, UNICEF, 1990, and for smaller countries, *Compendium of Statistics and Indicators on the Situation of Women, 1986*, United Nations Department of International Economic and Social Affairs, 1989, and *Evaluation of the Strategy for Health for All by the Year 2000*, WHO, 1987.

Percent Urban 1990:

For most countries this entry indicates the percent of the total population which is urbanized in 1990. Source: *State of World Population 1990*, United Nations Population Fund, 1990.

For smaller countries, 1988 or circa 1988 data were taken from: *State of the World's Children 1990*, UNICEF, 1990, and *Evaluation of the Strategy for Health for All by the Year 2000*, WHO, 1987.

Percent Below 16 Years:

The figures indicate the percent of the total population aged up to 16 years in 1988. *State of the World's Children 1990*, UNICEF, 1990, provided the number in millions of people under 16. The percentage was obtained by dividing the number under 16 by the total population.

In cases where UNICEF did not furnish data, the figures refer to the percent below 15 years circa 1985. Source: *Evaluation of the Strategy for Health for All by the year 2000*, WHO, 1987.

Nutritional Information:

The tables show the percent of children falling below two standard deviations from the reference standard of weight for age (underweight), height for age (stunted), and weight for height (wasted).

Sources:

Global Nutritional Status: Anthropometric Indicators, Update 1989, WHO, 1989.

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Percent of Infants Fully Immunized:

The numbers indicate the greatest possible percentage of children under the age of one who have been immunized against TB (tuberculosis), DPT (diphtheria, pertussis, and tetanus), Poliomyelitis, and Measles in the period 1987-88. Source: *State of the World's Children 1990*, UNICEF, 1990.

For smaller countries, mid-1980 data were obtained from *Evaluation of the Strategy for Health for All by the Year 2000*, WHO, 1987.

In some cases, either TB, DPT, or Measles information was not available; such estimates are followed by a "*".

Percent of Infants with Low Birthweight:

Incidence of low birthweight for a year in the period 1982-88. Sources: *Global Nutritional Status, Anthropometric Indicators, Update 1989*, WHO, 1989, *State of the World's Children, 1990*, UNICEF, 1990, and for smaller countries, *Evaluation of the Strategy for Health for All by the Year 2000*, WHO, 1987.

Percent of Population without Access to Health Facilities (Urban/Rural):

Figures refer to the period 1985-1987. Where no breakdown of urban and rural populations is available, a single number appears. Sources: *State of the World's Children*

1990, UNICEF, 1990, and for smaller countries, *Evaluation of the Strategy for Health for All in the Year 2000*, WHO, 1987.

Percent of Population without Access to Adequate and Safe Water (Urban/Rural):

Figures refer to the period 1985-1987. Where no breakdown of urban and rural populations is available, a single number appears. Sources: *State of the World's Children 1990*, UNICEF, 1990, and for smaller countries, *Evaluation of the Strategy for Health for All by the Year 2000*, WHO, 1987.

Percent of Population Below Absolute Poverty Level (Urban/Rural):

Estimates of population in poverty in any year within the period 1977-87. Where no breakdown of urban and rural populations is available, a single number appears. Source: *State of the World's Children 1990*, UNICEF, 1990, and *Social Indicators of Development, 1989*, World Bank, 1989.

Adult Literacy (Male/Female):

Adult literacy rates are for the year 1985. Sources: *State of World Population 1990*, United Nations Population Fund, 1990, and for smaller countries, *Evaluation of the Strategy for Health for All by the Year 2000*, WHO, 1987. Where only a single figure is listed the estimate refers to total literacy, male and female.

Percent of Households Headed by Females:

Estimates for the percent of households headed by women are based on 1970 and 1980 censuses. Source: *Compendium of Statistics and Indicators on the Status of Women 1986*, United Nations Department of International Economic and Social Affairs, 1989.

Total Number of People Who Are Hungry and Vulnerable to Hunger:

These figures were arrived at by sources listed in the resource section of the text.

Percent of Central Government Expenditures Spent on Health, Education, Defense:

Refers to the period 1986-1987. Sources: *State of the World's Children 1990*, UNICEF, 1990, and *World Development Report 1989*, World Bank, 1989. Entries which reflect budgetary instead of consolidated data are flagged with a "*b*".

Total Debt and Debt Servicing as a Percent of Export Earnings:

Total debt refers to figures in $US 1987. Source: *World Development Report 1989*, World Bank, 1989. For smaller countries, total debt is expressed in $US 1985. Source: *Handbook of International Trade and Development Statistics, 1987 Supplement*, UNCTAD, 1988.

Food as Percent of Exports and Food as a Percent of Imports:

The figures listed refer to early to mid-1980s. Source: *Handbook of International Trade and Development Statistics, 1987 Supplement*, UNCTAD, 1988.

Nutrition Country Profiles by the Food and Agriculture Organization of the United Nations were consulted for the following countries for the indicated years : Maldives (1984), Vietnam (1984), Lesotho (1987), Antigua (1984).

Income Distribution by Quintiles:

The latest available distributions are reported. Sources: *World Development Report 1989*, World Bank, 1989, and *Social Indicators of Development 1989*, World Bank, 1990.

Change in Real Minimum Wages:

The index numbers listed are base year 1980. Source: *Economic and Social Progress in Latin America. 1989 Report*, Inter-American Development Bank, 1989, and *Africa Misunderstood, or Whatever Happened to the Rural-Urban Gap*, V. Jamal and J. Weeks, [ILO], 1989.

Sources for the United States Data

Longitudinal Data

In order to give an indication of the recent trends in the status of those who are hungry and vulnerable to hunger in the United States, data for 1970, 1975 and 1980-88 are displayed in Table 10.

Population:

Population in thousands. Source: *Background Material and Data on the Programs Within the Jurisdiction of the Committee on Ways and Means*, 1990 edition, Committee on Ways and Means, U.S. House of Representatives.

Poverty Rates:

Poverty rates for Whites, Blacks, Hispanics, persons over 65 years of age, children (White, Black, Hispanic), and persons in female-headed households. Source: *Money Income and Poverty Status in the United States: 1988*, Current Population Reports, Consumer Income, Series P-60, No. 166, Bureau of the Census, Department of Commerce.

Share of Federal Budget Spent on Food and Nutrition Assistance:

Includes the Food Stamp Program, Supplemental Feeding Programs (WIC and CSFP), Food Donations Program, and Child Nutrition Programs. Source: *Historical Tables: Budget of the United States Government, FY 1989*, Executive Office of the President, Office of Management and Budget, 1988.

Infant Mortality Rate:

Infant mortality rates are given for all races combined, and for Whites and Blacks separately. Source: *S.O.S America! A Children's Defense Budget*, Children's Defense Fund, 1990.

Unemployment Rate:

The average annual official unemployment rate. Source: *Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means*, 1990 edition, Committee on Ways and Means, U.S. House of Representatives, 1990.

Income Distribution:

Share of adjusted family income (weighted by persons) by income quintile. Source: *Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means*, 1990 edition, Committee on Ways and Means, U.S. House of Representative, 1990 .

State-by-State Data

Table 11 presents data on a state-by-state basis and provides a picture of the relative position of each state on conditions or outcomes relating to hunger.

Population:

Population estimates as of July 1988 in thousands. Source: *Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means*, 1990 edition, Committee on Ways and Means, U.S. House of Representatives, 1990.

Poverty Rate:

Rate of poverty refers to the average annual poverty rate for the period 1984-1986. Source: *Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means*, 1990 edition, Committee on Ways and Means, U.S. House of Representatives, 1990.

AFDC Benefits as Percent of Poverty Level:

AFDC benefits in 1989 as a percent of the 1988 federal poverty level for a 3 person family: *S.O.S. America! A Children's Defense Budget*, Children's Defense Fund, 1990.

Percent of Poverty Population Receiving AFDC:

Percentage of poor receiving AFDC. Source: *Analysis of 1987 Benefit Levels in the Program of Aid to Families with Dependent Children*, Center on Social Welfare Policy and Law, 1987.

Number of Hungry:

For a detailed account of the methodology see *Hunger in America: The Growing Epidemic*, Physicians' Task Force on Hunger in America, Harvard University School of Public Health, 1985.

The number of hungry obtained is based on two significant assumptions: 1) All those in poverty who do not receive food stamps are hungry and 2) At least one quarter of those who do receive food stamps experience hunger. The figures listed in the table are conservative as they do not take into account people who are near poor (with incomes in the range of 100-130 percent of the poverty level) who may not consume adequate diets.

Infant Mortality Rate:

Annual average infant mortality rates in 1985-1987 for all races combined, and for Whites and Blacks separately. Source: *Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means*, 1990 edition, Committee on Ways and Means, U.S. House of Representatives.

Percent of Infants with Low Birthweight:

Percent of infants with low birthweight in 1987, by race. Source: *Monthly Vital Statistics Report*, National Center for Health Statistics, Vol. 38, No. 3, June 1989.

Percent of Eligible People Receiving WIC:

Percentage of those eligible for WIC being served in 1989. Source: Center on Budget and Policy Priorities, 1990.

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